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About Consumer and User Issues of Digital Rights Management Solutions

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The **IN**formed **DI**alogue about **C**onsumer **A**ceptability of **DRM** Solutions in **E**urope



Editorial: Obscurity in patent matters

By: Knud Böhle, ITAS, Karlsruhe, Germany

Abstract: This editorial presumes that DRM patents are a public policy issue which at the end of the value chain has an impact on the consumer experience with protected digital content. After a brief general characterization of the "social invention" called patents, DRM patents are addressed and open questions are raised which deserve further analysis. Surprisingly even seemingly simple questions like the one what the meaning of "DRM patent" is, have no easy answer. The second part of the editorial introduces the content of this INDICARE Monitor issue and draws your attention to a slight change of our publication concept.

Keywords: intellectual property rights, patents, software patents, DRM patents

Introduction

DRM-patents play a role in standards setting and interoperability and by this means are closely linked to consumer experiences. That's one reason why we think patents should be dealt with in the INDICARE Monitor. The second reason is that patents are kind of hinge connectors aimed to balance private interests and public benefits and therefore the question if DRM-patents stimulate innovation is a citizens' (and public policy) concern, interesting for INDICARE too. Thirdly, there is a lot of activity to be observed in the field of DRM-patents showing that the respective industries are forming up – think of the litigation InterTrust vs Microsoft way back in 2003 (settled in 2004; see Microsoft 2004), or the concerns of the European Commission in 2004 that Microsoft might achieve a dominant position in the DRM technology market as a shareholder of ContentGuard (see Beals 2004; Gray 2005). More recently attention has shifted to the marketing of patents, e.g. MPEG LA announcing a portfolio license agreement for essential patents relevant to OMA DRM 1.0 to be ready in March (see the interview with MPEG LA, Horn 2005), and Macrovision recently announced a patent pool for CD copy protection (see Rosenblatt 2005).

Background

Patents are about industrial property rights and refer to inventions which "use principles of nature and technology for new devices or processes that are novel, useful, and nonobvious" (Marlin-Bennett 2004, p. 34). The social bargain underlying the patent system is

to grant a monopoly to exploit an invention for a limited period of time (often 20 years) in exchange for the disclosure of the secrets of an invention, i.e. to make them patent. On the one hand the inventor can exploit the invention by selling products or by getting royalties from licensees – the money may be invested in new inventions. On the other hand competitors have access to the essential know-how and can go on – based on public knowledge – inventing and innovating and come up with solutions which are significantly better (or solutions which circumvent existing claims). Following the underlying societal calculus of patents, innovativeness should increase in this way. While there is no doubt about the good intentions at the outset when the patent system came into being, its costs and benefits, and its ambiguous effects on competition and innovation have been debated almost as long (see on the economics of patents the worthwhile primer by Lévêque and Ménière 2004). From a social point of view the following groups are often regarded as disadvantaged by the patent system: SMEs (lack of know-how and resources), third world countries ("digital divide"), indigenous communities (appropriation of their knowledge), and the open source movement (which follows a different approach to innovation).

Apparently patents become ever more important in "knowledge economies" and the importance of an adequate and efficient IPR regime is therefore evident. The evaluation of present trends, however, is highly controversial. Currently a trend can be observed to extend the scope of what's patentable and to introduce new categories of inventions, e.g.

"natural compounds", "genetic sequences", "medical treatment techniques" (cf. Wikipedia 2005a with further links). Of course patents on computer programs and business methods have to be mentioned here too. Literature about the usefulness of patents in dynamic industries like computers and software, and about the role of open source software is abundant. Many have also observed a trend that companies use patents for strategic purposes e.g. to block competitors, to strengthen reputation, to increase their bargaining power (cross-licensing), and to give incentives to their researchers (see e.g. Blind et al. 2003). This has led to an increase in the number of patents without a parallel increase of R&D outcomes.

The strategic use of patents however is not new: patents are often written in a form that the decisive information is not easy to grasp. The problem to figure out what a patent really means might also be due to old terminology, as *Stefan Bechtold* mentioned at the 3rd DRM conference in Berlin with respect to DRM relevant patents, which were written in the 1990s. Patents may also play a strategic role in the standardization process when e.g. companies pushing a standard hide the fact that they hold patents relevant for the implementation of the standard – a kind of "submarine patents", so to speak (see Wikipedia 2005b; see also Berlecon Research 2005, p.11). Another strategy is to grant licenses for free until a critical mass of deployment and implementation has been reached. Developers of software who are against software patents may decide to make their invention public to prevent others from applying for a patent. In this respect a handbook on IP in the Internet even recommends making the invention public on a website outside your home country in a foreign language which only few people in G8 countries will understand (see Bittner 2003, p. 689).

DRM patents

While the debate about patents in general and software patents in particular has led to a record number of papers of all kinds, DRM patents are seldom addressed. You can easily find articles about DRM standards (for instance in the INDICARE Monitor). Some of

them even touch upon DRM patents (e.g. Bill Rosenblatt 2005a). One of the few dedicated papers on DRM patents I know stems from INDICARE partner Berlecon (Berlecon Research 2005). As you can see from the title – DRM, DRM Patents and Mobile DRM – it pays special attention to developments in the mobile field. Reading the paper it becomes evident that this topic has not popped up incidentally but due to the transition to *rich content* in the mobile segment and consequently an increased demand for "multi-device and multi-channel capability" (p. 13) of DRM-systems.

The paper explains well the relationship between interoperability, standards and DRM patents including the intricate question what patents mean for "open standards". The authors can also show with respect to mobile DRM (especially OMA 1.0 and OMA 2.0), which players in the mobile content value chain need to know about patents. They hold that the patent situation for mobile DRM still lacks transparency, because not all essential patents are known and can not yet be licensed via patent license administrations (cf. p. 15). This situation however is about to change due to the efforts of patent license administrators like MPEG LA (see also the interview with Larry Horn in this issue). However, efficient administration of patents is not the only effort where industry cooperation is required to foster the use of DRM systems. Issues of trust and confidence are at least as important. The CMLA (Content Management License Administrator) is an industry initiative aiming exactly to ensure interoperability of DRM implementations at the level of trust and confidence (cf. p. 14). CMLA has been set up by Intel, mmO2, Nokia, Matsushita, RealNetworks, Samsung and Warner Bros. Studios.

Open questions

While the above might be taken as a teaser for an interesting paper, I would like to add some questions – some of them already mentioned in the paper – which in my opinion deserve further analysis and should be taken up in future articles for the INDICARE Monitor. There are three major questions with further questions attendant.

1. **What is a "DRM patent"?** In fact this question contains two separate questions one about scope and the other about claims: A) what spectrum of patents is relevant when designing, building and implementing DRM systems? B) what are – in terms of content and ideas – the relevant inventions or claims in the field?

The Berlecon "Whitepaper" tells us that rights expression languages (RELs) "are not the only standardized components of DRM" (p. 6), adding that also a "standardized trust model" addressing encryption, security, authentication etc. is required. In other words, there will be relevant patents related to rights expression languages and others related to trust and security. Are the latter "DRM patents"? The same question, adapted to a precise DRM standardisation effort, namely MPEG-21, is: How many and which patents are involved considering the MPEG REL and how many are involved when it comes to the IPMP (intellectual property management and protection) part of this standardisation effort? Of course the question is not about quantity, but about relevance of patents for DRM systems builders.

2. **How is the development of DRM patents influenced by the regulation of software patents?** Many of the relevant DRM patents are probably US software patents. What are the likely effects on DRM-based markets if regulation in the US and the EU – software implementations as patentable or not – differ? Berlecon states that "(n)o matter how the current debate and legislative initiatives turns out, the patents that have been granted so far will have to be taken into account" (p. 9). This suggests thinking that there might be lots of patents granted e.g. by the European Patent Office dealing with DRM relevant software implementations although this matter is not legally regulated. Be that as it may, it should not prevent us from asking if the current situation implies significant market disadvantages for the EU, and what implications a different regulation of software would have in the future. In this

context it would also be interesting to know if "DRM patents" include also business method patents. Is something like "superdistribution" patentable?

3. **How to best understand the strategic behaviour of industry players in the field of DRM patents?** Everything from proprietary solutions to official standards and "open standards" involves intellectual property and often patents, and by nature they become assets in strategy games. The difficult thing to find out is the underlying logic – just to put forward two particular observations: No doubt the OMA consortium relies on ODRL (Open Digital Rights Language) – and not on XrML or MPEG REL. Nevertheless MPEG LA – offering a portfolio license for essential patents for OMA 1.0 – has included in this portfolio patents of ContentGuard (the licensor of XrML). The likely reason is, as the Berlecon paper already points out, a general claim of ContentGuard "that its portfolio of patents is not restricted to XrML but covers any rights expression language" (p.7; emphasis KB). This might be considered a delicate claim, because it suggests that the implementation of XML constructs like XrML can be patented, and any developer of a REL might be obliged to pay licenses to ContentGuard. Can this really be the case? Another interesting question is about the intricate relationship between MPEG REL and XrML. MPEG REL has been developed on the basis of XrML – no doubt. But what are the strategic reasons why Microsoft, shareholder of ContentGuard, still uses XrML in its DRM systems instead of shifting to MPEG REL developed by ISO within MPEG-21?

About this issue

For the first time we pick up the "DRM patents" topic and hope to shed some light on this matter in coming issues too. Apart from the editorial we offer an interview with *Larry Horn*, Vice President, Licensing and Business Development of MPEG LA, LLC. His answers to the questions of *Thorsten*

Wichmann (Berlecon) bring the role and position of MPEG LA to the fore.

Next *Rik Lambers* (associate INDICARE member) fervently argues against the implementation of the "broadcast flag" in the US. The broadcast flag seeks to prevent the unauthorized distribution of digital over-the-air television content via p2p-networks. For European readers the question is, of course, if Europe will adopt a broadcast flag regime too or what alternative solutions respectively may protect the legitimate rights of broadcasters and content industry in the EU region?

Natali Helberger (IViR) has encountered a new commandment "Thou shalt not mislead thy customer!" She starts from legal reasons confirmed by a court decisions in France. The measures against "misleading" consumers are labelling and transparency. However, as we learn these measures are tricky, and may even turn against the consumer.

The consumer perspective is also paramount in the interview which *Nicole Dufft* (Berlecon) conducted with *Patrick von Braunmühl*, Federation of German Consumer Organisations (vzbv). The interview neatly shows where consumer organisations are not satisfied with current legislation demanding that copyright exemptions have to become consumer rights.

Péter Benjamin Tóth (ARTISJUS) sees a need for a comprehensive re-thinking of "DRM". The focus of his article is on the potential of DRM systems – which he understands as a technology monopoly – to override statutory exceptions and to be misused when it comes to legally non-copyrighted content, non-protected works, and non-protected uses. By the way, Tóth has also contributed an interesting comment to an earlier INDICARE article which deals with a

related subject – the first one including nice pictures (see and find out at: http://www.indicare.org/tiki-read_article.php?articleId=48

Carsten Orwat (ITAS) reports on the 3rd DRM Conference, Berlin, 13th and 14th January 2005, addressing consumer concerns, economic aspects of DRM and alternative compensation schemes.

Finally we have included again a comment on INDICARE's first State of the Art report. *Chris Barlas* (Rightscom) argues that INDICARE has not got the work of MPEG-21 right. Critique is a necessary part of an Informed Dialogue, and definitely helps us to improve.

INDICARE News

The present issue of the INDICARE Monitor is the last one of Volume 1. Volume 2 starts in March in parallel with the start of the second year for the INDICARE project. As there were some ambiguities with respect to the monthly publication of INDICARE we have adjusted our terminology and procedures for Volume 2. *On the last Friday of each month* INDICARE publishes its monthly *online-journal*: the *INDICARE Monitor*. This publication contains *reviewed articles* which have been *pre-published continuously* on the INDICARE website during the month, and adds an editorial. The INDICARE Monitor is made available online in *html* and *pdf* format and collected in the *INDICARE Monitor Archive*.

You can use the *RSS-feed* to get articles as soon as they are posted, and you can *subscribe* to the INDICARE Monitor, and receive an *e-mail notification* containing the contents page (title, author, abstract, and URLs) and a link to the pdf-version (this service replaces the bi-weekly INDICARE newsletter).

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MPEG-LA's portfolio license – A jumpstart for DRM-based markets?

By: Lawrence Horn, MPEG LA, Denver/Colorado, USA

INDICARE-Interview with Thorsten Wichmann, Berlecon Research, Berlin, Germany. The interview discusses MPEG LA's upcoming patent portfolio license for essential patents related to OMA's DRM 1.0 standard as well as its potential implications for the market of DRM technologies and DRM-based products and services. The existence of patents on certain elements of DRM technology is frequently seen as an obstacle to the quick and widespread introduction of DRM solutions. Patent portfolio licenses like those offered by MPEG LA might provide a way out of this dilemma.

Keywords: DRM patents, portfolio license, MPEG LA, OMA

About Larry Horn and MPEG LA

Larry Horn (American) is Vice President, Licensing and Business Development of MPEG LA, LLC. MPEG LA is a pioneer in one-stop technology standards licensing, which enables widespread technological implementation, interoperability and use of fundamental broad-based technologies cov-

ered by many patents owned by many patent owners. MPEG LA provides the marketplace with fair, reasonable, non-discriminatory access to a portfolio of worldwide essential patents under a single license. Its MPEG-2 Patent Portfolio License, for example, now has over 800 licensees and includes more than 650 MPEG-2 essential patents in 57

countries owned by 23 companies and a major university.

MPEG-LA announced in January 2005 its first license related to DRM standards. We took the announcement as an occasion to conduct this e-interview.

INDICARE: Mr Horn, you are Vice President at MPEG LA and also part owner of this company. Could you shortly describe what MPEG-LA does and how it relates to MPEG, the Moving Picture Experts Group at the standardization organisation ISO?

L. Horn: There is no relationship between MPEG LA and MPEG. MPEG LA is a private company in the business of offering patent licenses for the use of various standards including some developed by the Moving Picture Experts Group.

INDICARE: MPEG LA announced its plan for a joint patent license for DRM technology in October 2003. Could you tell us why you started with DRM at that time and use this example to explain the procedure at MPEG-LA?

L. Horn: This is the first step in the plan envisioned by the DRM Reference Model, which first issued in October 2003. The DRM Reference Model envisioned the establishment of patent licenses for various DRM implementations wherever the market might find them an efficient and convenient alternative to negotiating separate licenses with individual patent owners for access to essential patents. Consistent with that plan, the OMA DRM 1.0 Patent Portfolio License ...

INDICARE: ... which covers the DRM standard developed by the Open Mobile Association OMA in its first version ...

L. Horn: ... is the first in a number of DRM related licenses expected to issue in response to emerging market needs. We are also working on a license for OMA DRM 2.0 and Internet music transfer services, among others.

INDICARE: Is there any benefit for consumers from such portfolio licenses?

L. Horn: Yes, the purpose of the OMA DRM 1.0 Patent Portfolio License is to assist in removing the uncertainty surrounding the

„patent overhang,“ which stands in the way of releasing DRM products and services to the mobile sector. And, to the extent these products and services are made available, consumers are the beneficiaries.

INDICARE: What exactly do you mean by „patent overhang“?

L. Horn: Patent overhang refers to the uncertainty on the part of users surrounding the availability and terms of a license under the essential patents required for the use of particular technologies. But in the absence of a joint license providing a convenient and efficient way to access the technology on fair, reasonable terms, the uncertainty may discourage them from its use. The portfolio license was a response to demand from both, providers and consumers to open up markets for DRM products and services. Without efficient access to the essential patents, development and deployment of these might be inhibited.

That's what MPEG LA does and why the acknowledged key patent holders ContentGuard and InterTrust as well as other leading parties have come together. This is about technology to enable new markets, new products and services, new revenue and other growth opportunities. Therefore, the license will assist in satisfying this demand and benefit everyone in the distribution chain – content owners, service providers, device manufacturers and consumers.

INDICARE: According to your announcement from January, you have reached a major milestone this year with an initial group of essential patent holders for the OMA 1.0 DRM standard having reached a tentative agreement for a joint license. Why did you choose OMA as a starting point? Did they contact MPEG LA and point out some urgent need?

L. Horn: OMA DRM 1.0 is being widely adopted in the market, and there is an immediate need for a joint patent license for OMA DRM 1.0. The license is a private marketplace initiative in response to this need. It was not requested or initiated by OMA.

INDICARE: The announcement is worded very carefully. Is there a risk that the partners will not come to a final agreement?

L. Horn: The actual License Agreement, which is still being worked on, will provide the only definitive and reliable statement of license terms. We fully expect the parties named in the announcement to join the actual license agreement, but the final decision of the parties to become licensors is not final (no more or less than in any other joint license situation) until each of them has signed the documents that give MPEG LA the right to sublicense their patents to others under terms of the license and until the license actually issues.

INDICARE: What will be the next milestones? OMA 2.0?

L. Horn: A call for essential patents for OMA DRM 2.0 has been made, patents are currently being evaluated for their essentiality, and a group of initial patent holders will be convened soon to decide the terms of license.

INDICARE: Some people might have been surprised that for such a relatively simple standard as OMA 1.0, already patents from five companies were found to be essential. Was that number in line with your expectations? Or did even more companies submit patents for consideration?

L. Horn: Because of our confidentiality to submitting patent holders, we don't disclose the identities of patent holders who have submitted patents for evaluation – whether those currently being evaluated or those found not to be essential. But, there were additional patent submissions.

INDICARE: Does MPEG LA know from the submission process whether all essential patents are included in the portfolio license?

L. Horn: This is a license of convenience enabling users to take essential patents from multiple patent holders as an alternative to negotiating separate licenses with each. And, while it is MPEG LA's objective to include as much essential intellectual property as possible for market convenience, participation on the part of patent holders is volun-

tary. Therefore, not only do we not make any assurances in that regard, but we have not conducted any studies and have no way of knowing who owns essential patents in the absence of a patent submission.

That said, the patents of the named patent holders are well recognized as having extraordinary value in the DRM space, our process for including essential IP will continue throughout the course of the license in order to include as much essential intellectual property as possible, and if a patent holder believes it owns an essential patent, we encourage them to submit it for evaluation and inclusion. If found essential, such patent(s) will be included on the same terms and conditions as the other essential patents without any increase in the royalty rates during the current term of the license.

INDICARE: If the royalty rates are not increased when new patents are added, do the early participants in the agreement have to give up revenue shares in favour of added patents or how does this work?

L. Horn: As a general matter, royalties are normally distributed according to the relative number of essential patents held by each patent owner in relevant countries at the time of each royalty distribution

INDICARE: How do portfolio licenses such as the one related to OMA DRM handle regional IPR differences? I suppose that not all patents included in the license apply all over the world? Will there be a price differentiation between usage in the US and in Europe, for example?

L. Horn: At this point each patent holder has had at least one patent evaluated as essential, and they will be required under their agreements with MPEG LA to include all of their essential (to OMA DRM 1.0) patents worldwide. Wherever a product is manufactured, sold, received in or transmitted to a country with patents, a royalty is payable.

INDICARE: I understand from your answer that the patents you offer are worldwide patents. But take, for example, a service provider operating only on the German market. He probably won't want a worldwide license. Will there be a way to take out a license for

the German (or European) market covering only those patents valid over here or is it take it or leave it?

L. Horn: Although is it true that we offer only one license, I think there may be some misunderstanding how it works, which I will clarify. Each patent is essential to the technology (i.e., infringed by use of the standard), and the same royalty is payable whether one or more of them is used. The benefit of including all of the patents is that licensees have coverage wherever they need it, but again the royalty is the same whether one or more of them is used.

INDICARE: You are probably by now used to complaints about the structure and size of MPEG LA license fees. Why did MPEG LA (or the consortium) choose to demand fees from device manufacturers and service providers, but not, e.g., from software companies producing backend DRM software? And isn't 1% of revenue – the fee demanded from service providers – quite substantial, when taking into account the low profit margins and the fact that OMA 1.0 offers a very limited DRM functionality?

L. Horn: It is standard practice and widely accepted to collect royalties from the end product (hardware or software) or service provider. Regarding your second question, we disagree. This is a core enabling technol-

ogy which will create new markets, new products and services, new revenue and other growth opportunities; and its value should be measured against those opportunities. As such, everyone in the distribution chain – content owners, service providers, device manufacturers and consumers – will benefit.

We also know that the patent overhang has been an issue of great concern to the marketplace, and providing a marketplace solution in the form of an OMA DRM 1.0 Patent Portfolio License which allows users to plan for and build these costs into their business models should come as welcome news which will encourage the release of DRM products and services.

INDICARE: One last question: Some people suggest that intellectual property rights issues related to DRM technology are especially difficult and complex. From your experience with other technology standards during the last years, are they right? Is DRM any different?

L. Horn: Every license is different, but I would not characterize one as more difficult and complex than another.

INDICARE: Mr Horn, thank you very much for this interview!

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Hail to the flag, it's the 1st of July. The main arguments against the implementation of the US Broadcast Flag

By: Rik Lambers, Amsterdam, The Netherlands

Abstract: On July first of this year the so-called broadcast flag regime will come into effect in the United States. The broadcast flag seeks to prevent the unauthorized distribution of digital over-the-air television content via p2p-networks. But, replacing the black flag of piracy with the broadcast flag may also prevent fair uses and hinder innovation. The debate about the broadcast flag will be outlined, and the question will be raised if the broadcast flag approach will stretch beyond the US, towards Europe.

Keywords: broadcast flag, digital television, p2p, security, fair use, innovation, US, EU

Introduction

*Bells ring-a-lingin', firecrackers poppin'
Lighting up the sky
Hail to the flag, It's the 4th of July*

Roger Miller – *The 4th of July*

Three days before Americans celebrate Independence Day and salute their flag in a display of fireworks, another flag will be introduced with less fanfare: the *broadcast flag*. This flag is not about independence, but will have to be saluted nonetheless. In order to protect digital over-the-air television signals against unauthorized (re-)distribution, especially via p2p networks, all devices capable of receiving these signals will become dependent on the broadcast flag regime and its executioners. For users of digital television content and manufacturers of consumer devices the 1st of July will be marked as "Dependence Day".

Background

US Congress is pushing to bring the higher quality of digital television in the US living rooms and expects broadcasters to air digital television signals by 2006. This is an optimistic goal, to say the least. Some critics think it's a matter of decades (see e.g. Thierer 2001). Nonetheless, (video) content producers have called for the protection of aired digital content. They fear that users will be able to widely redistribute the received digital broadcastings over the internet if no protection system is in place. This redistribution, popularly labelled as piracy, would undermine their current business

model, which depends on the exploitation of multiple distribution streams for the same work: e.g. box office performance, (DVD) sales and rentals, (paid) cable distribution, next to (digital) over-the-air broadcasts (see Crawford 2004, pp. 607, 610). Some content producers state that without a protection scheme for digital broadcasting they would not permit their content to be broadcasted digitally. This in turn would undermine the willingness of users to buy into digital television and frustrate the transition from analogue to digital television. As this transition would free up a great part of the analogue spectrum, which will be auctioned off to the benefit of the US government, the political pressure on the FCC to support a smooth transition has been high (see Crawford 2004, p. 609).

The FCC's broadcast flag

It is against the sketched background that on November 4th 2003 the FCC adopted the broadcast flag regime, recognizing and catering to the fears of the movie and video producers: "We conclude that by taking preventive action today, we can forestall the development of a problem in the future similar to that currently being experienced by the music industry" (see FCC Report 2003, p. 5). This preventive action seeks to assure secure channels by regulating the devices that receive digital television signals. These devices may only redistribute received digital content if a flag that is transmitted with the signals, the broadcast flag, allows this. The architecture of the receiver and the devices connected to it

have to provide a trusted environment that keeps the digital content locked-in, unless the redistribution outside this environment is permitted by the flag. In short: a receiving device checks for the presence of the flag; flagged content is encrypted with *approved* technologies; digital copies of the flagged content may be made with *approved* copy protection technologies; redistribution of flagged content is only allowed within a trusted environment to other devices that abide to the set security rules.

From July first only those devices that meet these conditions may be distributed and sold within the US (see Section 47 CFR 73.9002(b) FCC ruling). The FCC has made the scope of this mandated DRM scheme perfectly clear: "We further note that we intend our redistribution control regulations to apply to any device or piece of equipment whether it be consumer electronics, PC or IT device that contains a tuner capable of receiving over-the-air television broadcast signals" (FCC Report 2003, p. 18). Users that want their digital television sets, TiVos, computers and other devices to be able to process digital television content, will all have to salute to the flag from this summer on.

Alternatives to the broadcast flag, such as encryption of the television signal at the source and watermarking or fingerprinting the content, have been considered by the FCC, but rejected with the argument of not providing enough security (see FCC 2003, pp. 11-13).

The debate about the broadcast flag

There has been considerable critique on the broadcast flag. This critique mainly relates to (the effectiveness of) its security regime (1), the interests of users (2) and its influence on (future) innovation (3).

(1) Security regime

a) inappropriate threat model: the broadcast flag as security regime lacks a clear "threat model". For the FCC, the threat, i.e. the goal of its regulation, is clear. The FCC seeks to prevent the distribution of any copy of digital television content on p2p networks: "(T)he express goal of a redistribu-

tion control system for digital broadcast television (is) to prevent the *indiscriminate redistribution* of such content on the Internet" (see FCC Report 2003, p. 6, italics added). However, its regime is likely to have another effect: to prevent casual copying by the average user – but not to prevent more tech-savvy users from circumventing the protection and put a copy on the internet to be massively copied later on. Consequently, the FCC does not provide the technical measure for the goal it has set itself. It provides an insufficient threat model that fails to fill the hole in its security regime (see Felten 2003).

b) underestimating the analogue hole: A more infamous hole that undermines the effectiveness of the broadcast flag is the so-called analogue hole. The broadcast flag does not prevent the conversion of the digital signals through analogue outputs (e.g. the analogue video jack of a VCR). Content that is flagged can be recorded in an analogue format of high quality through an analogue output, redigitized and then copied and disseminated. These copies got no flag attached, being lost in the digital-to-analogue conversion, and are subsequently not secured against indiscriminate redistribution via the internet. Consequently broadcasted content may still be downloaded in a lower quality. This will be good enough for most file-sharers, who are more likely to be driven by costless content than the best quality. Efforts to plug the analogue hole, to cut off the stream of digitized analogue signals, have thus far not been successful.

c) underestimating non-flag-compliant digital television receivers: No one can be sure that prohibited devices may still be acquired or even built by users after the implementation of the broadcast flag. The FCC does not think this will influence the security of the regime: "We do not believe, however, that individual acts of circumvention necessarily undermine the value and integrity of an entire content protection system" (see FCC Report 2003, p. 10). It may be right that it is unlikely for an average user to get around the broadcast flag protection and even more unlikely that he

will built (or acquire) a device that is able to do so. Nonetheless, the Electronic Frontier Foundation (EFF) has provided instructions on how to build non-flag-compliant digital television receivers (see EFF 2005).

(2) Users' interests of fair use

The instructions provided by the EFF are meant to enable users to continue their current (fair) uses of digital content in the future: e.g. time-shifting, place-shifting, taking excerpts from clips and integrate them in their own works. However, with the broadcast flag in place these uses are likely to be restricted and made dependent on the authorization of the copyright holder. Home networks become closed circuits, in which users can only copy and transport content to approved devices that are compliant with the broadcast flag regime. Users will not be able to transmit or play this content on non-compliant devices. Even fair uses, allowed under copyright, might be prevented by the technological protection measures, and become subject to the permission of the copyright holder beforehand. In that sense the broadcast flag is an exponent and stimulator of the rise of a "permission culture" (see e.g. Lambers 2005). What's more, the broadcast flag may not only exclude current fair uses, but also those that would be deemed fair in the future. It encodes a restricted copyright of today for tomorrow. At the same time uses currently enjoyed might be coded away in the future.

(3) Innovation

It is important to remember that the broadcast flag is *mandated* by the FCC. The broadcast flag regime not only dictates that device manufacturers should implement DRMs, but also makes the used DRMs subject to approval. All devices manufactured to receive digital television signals will have to use protection technologies from the so-called A Table. Technologies to be included in this Table, will have to be approved. For now this approval is left to the FCC, but possibly the video content industry will take over this function. Consequently the approval of new information technologies and consumer electronic devices will dependent on the authorization of

a (federal) gatekeeper (see Crawford 2004, p. 630).

It is questionable if this gatekeeping will be done in a neutral fashion, but it certainly influences the ability to freely innovate. TiVo, the manufacturer of digital video recorders, found this out last year. When the company had to ask permission to the FCC under the broadcast flag for introducing the option for its users to send their recorded digital television programs over the internet, it got more than a little opposition from the content industry, specifically Motion Picture Association of America (MPAA) (see Pegorano 2004).

The example of the general purpose computer: Computers controlled by end users and the Internet as a decentralised network have been leading forces for creativity and innovation. The broadcast flag might change this. To protect the broadcasting model, control will be embedded in the ends of the internet. General purpose computers able to receive digital television signals and distribute these over the internet fall within the regulative scope of the broadcast flag, the rules of which determine that users should not (be able to) modify their hard- and software. This, for example, conflicts with open source software, which is disseminated under licenses that subscribe to the freedom to tinker: the possibility to change and redistribute the software in order to improve it and learn from the process. This has, amongst others, led to the development of the GNU/Linux operating system. In more general terms, for the first time, some of the openness of the computer platform will be locked down, and with it part of its innovative potential.

Broadcast flag outside the US

The influence of the broadcast flag may reach further than the US. While in Japan a broadcast flag scheme is in place for commercial television, and Canada is watching the developments in its neighbouring country with great interest, more substantial considerations are brought into play on a worldwide level by the so-called Broadcasting Treaty of the World Intellectual Property Organisation (WIPO). Though not

proposing a broadcast flag as such, the treaty seeks to consolidate the interests of broadcasters (not copyright holders) over (the distribution of) their broadcasts, and make it illegal to circumvent technological measures protecting them. The discussion over this treaty has been heated and is ongoing (see IP Watch 2004).

On a European level the broadcast flag approach has not been followed, yet. However, it may serve as an inspiration for regulators. The Motion Picture Association has already proposed the implementation of a protection scheme reminiscent of the broadcast flag (in its comments to the Final Report of the European Commission's High Level Working Group on Digital Rights Management; see Lambers 2004).

If not directly, through a European version, Europe may be influenced indirectly. No European consumer electronic device or information technology that falls within the realm of the broadcast flag may be imported into the US if it does not comply with the regime, while US companies will be allowed to produce non-compliant products for the foreign market (e.g. Europe). Not only may this result in a competitive disadvantage for European manufacturers, it may also lead to a de-facto implementation of the broadcast flag so industry won't miss out on the US market. However, there is a much bigger market for consumer devices outside the US. European manufacturers, not burdened by a broadcast flag regime in the first place, will be freer to build the products they and especially users

want. It may be proven that the market for non-broadcast flag devices is more fruitful and rewarding, now and in the future.

Bottom line

The fear of content producers of commercial harm by unauthorized redistribution of content they provide may be legitimate. Through the broadcast flag (video) content producers do not only try to protect their content, but also their existing business models. The video content industry has sought to project its incumbent network model on the internet and other developing technologies. Both innovation and user interests may be trampled in the process. Exemplary of this projection is what a representative of Hewlett-Packard had to say over an FCC approved content protection measure, "While developing the Video Content Protection System, we continually kept the perspective of the person sitting in their living room watching TV as a dominant part of the equation" (see PhysOrg 2005). This is the image of the consumer as couch potato, locked-in to his home network, dependent on the will of an incumbent industry, which sets the rules for the future.

However there are no irresistible laws in history. Recently, February 22, the authority of the FCC to mandate the broadcast flag has been challenged in court (see Public Knowledge 2005). If the broadcast flag will actually have to be implemented by the first of July will become clear in the coming months.

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Thou shalt not mislead thy customer! The pitfalls of labelling and transparency

By: Natali Helberger, Institute for Information Law, Amsterdam, The Netherlands

Abstract: The article explains why one should not mislead his customers. And the author is not even talking about rules of decency and fair play; she is talking about legal reasons, as recently confirmed by a court decision in France. The article also explains, however, why the issue of transparency is a tricky one, and under which conditions transparency could turn against the consumer.

Keywords: transparency, labelling, consumer expectation

Prelude



Does this look familiar? What does this mean to you, average reader? One tip: it is about transparency (solution to the question at the end of the text).

Part 1 – Transparency rules

Thou shalt not mislead thy customer! This at least was the conclusion of the Tribunal de Grande Instance de Nanterre (2003a). The court had to decide on the complaint by buyers of CDs from the music publisher EMI

music, which would not play on computers or car radios. The consumers were represented by the French consumer organization CLCV. CLCV held that the consumers have been misled. True, on the CDs it was indicated that technological anti-copy protection measures were in place; but nowhere was it written that this means one cannot listen to the music. Surely, making it impossible to even listen to music would mean pushing copyright protection too far, or not? It does, so said the court, it does at least if consumers have not been warned beforehand.

Misleading – not a gentleman's crime in France

According to French consumer protection law, anyone who deceives consumers about the nature of a product can be held liable

(Article L213-1 of the French consumer law). The judge concluded that the nature of a CD is that it can be listened to, even on computers and car radios. If one cannot do so, the product is flawed (see Tribunal de Grande Instance de Nanterre 2003b). Not informing a consumer about the fact that a product is flawed constitutes misleading behaviour. And, at least in France, this can have consequences and be fined with up to 250,000 French Francs (38112.25 Euros) or two years imprisonment. Misleading consumers is clearly no gentleman's crime in France. Interestingly, the court also found that sole reference to the fact that technical anti-copying measures are in place is not enough to avoid liability. Consumers cannot be expected to know that anti-copying can mean anti-listening. In response, it imposed on EMI Music France the obligation to label its CDs – in 2.5 mm characters: "Attention cannot be listened on all players or car radios".

...Nor in Europe - Unfair B2C Commercial Practice Directive

Consumer protection laws differ from state to state, and not each state might have rules comparable to the French law. Soon, however, no European Member State will be able to get around acknowledging a legitimate interest of consumers "to know". The proposed Unfair Commercial Practices Directive will harmonise the existing national general clauses in consumer protection laws in relation to unfair commercial practices between businesses and consumers (see Unfair Commercial Practices Directive 2003). It will establish precise criteria for determining when behaviour is unfair under the general clause (Unfair Commercial Practices Directive, Explanatory Memorandum, Recital 48). In addition, it addresses specific unfair practices which are to be banned in the Internal Market. One practice to be banned in the Internal Market is the misleading of consumers by omitting information the consumer should know. Article 7 (1) of the proposed Unfair Commercial Practices Directive stipulates that a commercial practice, which "[...] omits material information that the average consumer needs, according to the context, to take an informed transactional decision and

thereby causes or is likely to cause the average consumer to take a transactional decision that he would not have taken otherwise" is regarded misleading according to Article 7(1)) and as such deemed unfair and is banned, Articles 5(3)(a) and 5(1) of the proposed Unfair Commercial Practices Directive.

Translated into a language that the average consumer is able to understand this means that providers of music CDs, DVDs and downloadable music must provide the consumer with all the reasons and characteristics why the product he buys is possibly not what he thinks he is buying. The consumer should have the possibility to know what he is buying. Fair enough, one might want to add. In an increasingly sophisticated technical environment it cannot be expected of the consumer to know all the technical specifications by just looking at the product. CDs are more complicated than pears and books. Still, a consumer does have certain expectations of how CDs should function. For example, it should play in a CD player. If a product fails to live up to these expectations, this is information that the consumer should have. Consequently, if a producer sells CDs that cannot be played on different devices, he is obliged to inform the consumer about this.

Transparency and consumer expectations

Precondition is that the average consumer would not otherwise have bought the CD. This leads to some difficult questions, first and foremost what is it that a consumer expects from a CD, and what features of a CD are so essential that, if the consumer knows that they are absent, he will not buy that CD? So far, there was not much need to think about what we expect from a CD. It played. Thanks to DRM, however, CDs no longer simply play. The controller of DRM has increasingly sophisticated tools at hand to control if a CD plays in a car radio, if it can be ripped, sampled, fast forwarded, if it plays in different countries and continents, if it allows to skip the commercials, e-mail an electronic file of it to a friend. In order to know whether a label will prevent us from buying or not buying a product we must know what we actually expect from this product. And the industry must know what we expect so that

they can warn us not to buy their products. And we must know what the industry thinks that we expect so that if we expect something different and nobody warns us we know what to expect. Listening to music used to be easier.

Transparency is good and important. Knowledge is power. The power of consumers is to decide to buy or not to buy a product. In order to be able to make an informed decision, consumers must, first of all, know what the characteristics of the product they buy are. The purpose of transparency obligations is to tell consumers what they must know before they can make an informed decision. The purpose of labels, of transparency is also to give consumers the chance to compare and to choose the products that offer the most attractive terms, conditions and quality. Transparency is inevitable in a functioning market place.

Part 2 – Transparency is not everything

But transparency is not – as some have heralded (see Beemsterboer 2005) – the answer to everything. As beneficial as transparency can be from a competition and consumer welfare point of view, we should be aware that simply by informing the consumer about all the things that he cannot do with the product, which he bought, the digital world is not necessarily a much better one – at least not for the consumer.

Headache

Transparency can cause a headache. Perhaps, in future we will buy music like medicines – accompanied by a long and fierce looking insert, which lists all the side effects and risks that listening to this piece of music involves. How much transparency is the average consumer able to digest?

Risks and side effects

Transparency can have its own risks and side effects. Transparency can turn against the consumer – if we read often enough on CDs that this product will not play in car radios, cannot be copied, cannot be sampled and ripped – do we actually still expect that CDs can do all these things? The notion of a transactional decision “that he would not have taken otherwise” presupposes that the

consumer actually believes he has a choice. In the worst case, transparency could be abused by the entertainment industry to educate us, and tell us what we are supposed to expect from a product.

Abuse

And finally, transparency can also be used to manipulate the consumer, the market place. This could be, for example the effect of Microsoft’s newest “transparency” initiative – “Plays for sure” (Microsoft 2005). Microsoft has launched its labelling campaign “plays for sure”. The idea behind “plays for sure” is the introduction of a new logo that indicates which formats a portable music player can process.



In order to be able to play music “for sure” consumers would have to 1) download the Windows Media Player 10, 2) find a portable device that carries the “play for sure” logo, and 3) find an online music store that also carries the logo. In other words, with all the music stores and portable devices that are not part of Microsoft’s campaign, consumers cannot be sure at all that their player will play their music. It is worth mentioning that serious competitors of Microsoft’s own download service MSN music, such as iTunes and Rhapsody, are not amongst the online stores that the campaign supports. It is difficult not to have the impression that Microsoft’s motives for the campaign are not entirely altruistic. Selective transparency can be also a tool to tell consumers what to listen to, or even more importantly: whom not to listen to.

Bottom line

In conclusion, maybe, better than to warn consumers from not functioning products is to actually produce products in a way that consumers want to buy them – even if they know all about them. Knowledge is good. Quality is better.

After play: solution

The solution to the question what the label means is: It is the IFPI Copy Control Symbol for CDs. IFPI has developed this label to indicate that a CD contains technical protection mechanisms. It recommends its mem-

bers and non-members to apply the sign. Users of the label can provide consumers with further information about possible incompatibilities, how often a CD can be copied, etc. (see IFPI 2002).

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Copyright exemptions have to become consumer rights!

By: Patrick von Braunmühl, vzbv, Berlin, Germany

INDICARE-Interview by Nicole Dufft, Berlecon Research, with Patrick von Braunmühl, Federation of German Consumer Organisations (vzbv), Berlin, Germany

DRM technology and current legislation threaten the original balance of copyright law. The use of DRM technologies may override copyright exemptions - this the more since, for the time being, consumers do not have clear carved-out rights regarding DRM use. Therefore consumer organisations demand that copyright exemptions have to become consumer rights as a prerequisite for effectively enforcing consumers' legitimate interests.

Keywords: copyright, private copying, consumer rights

About Patrick von Braunmühl and vzbv

Patrick von Braunmühl is Deputy Executive Director of the Federation of German Consumer Organisations (vzbv) and Head of the Department for Economic and Legal Affairs. vzbv is a non-governmental organisation acting as an umbrella for 38 German consumer associations. It represents the interests of consumers in public and vis-à-vis legislators, the private sector and civil

society. Its goal is to protect and empower the consumer. The organisation does this by lobbying and campaigning at national and European levels, by taking collective legal action on behalf of consumers and by ensuring that its message receives broad media coverage. Contact: wirtschaft@vzbv.de

INDICARE: Mr. von Braunmühl what are, from your point of view, the most serious

threats of DRM for consumers and the society as a whole?

P. von Braunmühl: A broad application of DRM technologies carries the risk that the use of content will be completely controlled by the content industry. As a result, DRM technologies could limit the access of broad parts of society to information and cultural goods.

In addition, there is a danger that prices for information, cultural goods, and scientific works will increase if consumers have to pay for every single use of content. Consumers that want to use their legally acquired digital content in the same way as they are used to from the analogue world, might only be able to do so at higher prices. Such a development would not only be negative for consumers but also for society as a whole. Innovation would be negatively affected, since creators of works need inspiration from other artists and scientists, which requires easy access to other works.

INDICARE: How can DRM technology confine consumer rights?

P. von Braunmühl: DRM technology has the potential to override copyright law. When DRM technology is applied, the legal relationship between content providers and consumers is increasingly ruled by contract law rather than by copyright law. Limitations to copyright law, e.g. the private copying exemption, might factually be overruled by the contract between content provider and its client. Standard clickwrap licenses, for example, that consumers have to accept to access content can exclude uses of content that are actually exempted from copyright. In this way, DRM technology and respective contracts can disqualify exemptions stated by copyright law.

INDICARE: What can consumers do to fight this?

P. von Braunmühl: For individual consumers it is difficult to know which uses of digital content are legitimate and which are not. Copyright law is a very complex issue and individual consumers are usually not very well informed about copyright limitations. Adding to this lack of knowledge is a

significant lack of transparency in many online contracts and in the use of DRMs. Furthermore, consumers are severely alienated by campaigns from the content industry, which give the impression that private copying is equal to piracy.

But even if individual consumers know that the legitimate use of content is restricted by a specific content provider, they have only very small incentives and high financial risks to engage in court actions against this practice.

INDICARE: How can consumer organisations help to enforce consumers' rights?

P. von Braunmühl: Consumer organisations can help to protect individual consumer rights with collective actions against unfair practice. However, we need concrete complaints from individual consumers to become active in collective actions that prevent rightsholders and content providers from restricting consumer rights.

INDICARE: Is there a new role for consumer organisations in the digital world?

P. von Braunmühl: One important role of consumer organisations in the analogue world is to check whether sales contracts and terms of conditions contain clauses that are detrimental to consumer rights. We increasingly have to play this role in the digital world as well. We have to check the terms and conditions of online offerings for unlawful clauses and unfair practices and make sure that contracts are in line with legal provisions that protect consumer rights.

However, in the case of digital content, current legislation does not provide a very good basis to protect consumer interests. Consumer protection law in most countries does not consider the use of digital media. And copyright law does not provide for consumer rights, it only provides for exemptions to copyright. If these exemptions are factually disqualified by DRM technology, the legal situation is currently far from clear.

INDICARE: So current legislation is not adequate to protect consumer rights in the area of digital content?

P. von Braunmühl: No. Currently, consumer rights in the digital world are not clearly defined. There is no balance of interests of rightsholders and consumers. In some cases, current legislation even protects unfair practices. For example, legislation in most countries prohibits the circumvention of technical protection measures, completely ignoring whether these measures are in line with copyright law or not. Even if a technological measure restricts a consumer from using digital content legiti-

mately, this measure may be protected by law.

What we need is a clear definition of what private copying means and under which conditions consumers have the right for private copying. We claim that copyright exemptions have to become consumer rights! Otherwise, DRM technology can – and will - be used to the disadvantage of consumers, without any legal measures to enforce consumers' legitimate interests. Legislation should make sure that DRMs cannot restrict copyright limitations.

INDICARE: Mr. von Braunmühl, thank you very much for this interview!

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Need for a comprehensive re-thinking of "DRM" systems and copyright

By: Dr. Péter Benjamin Tóth, ARTISJUS, Budapest, Hungary

Abstract: In my previous article (Tóth 2004) "Digital Rights Management or Digital Content Control" I pointed out that as a rule so-called DRM systems (for which I offered a new expression: Digital Content Control Exercise systems or DCCE) do not involve the management of copyright. The technical power offered by these technical tools can exist over any digital content and can prevent any activities regarding these contents. This strong monopoly conflicts with several interests and therefore needs to be examined comprehensively. The focus of this article is on the conflict of DCCE with the statutory exceptions and non-copyrighted content, non-protected works, and non-protected uses.

Keywords: copyright, copyright exceptions, technical protection measure, EU, WIPO

Introduction

Copyright is created by an independent branch of power based on wide discussions as a *legal monopoly* limited by rules to protect different legitimate interests. In contrast, control provided by so-called DRM systems

is based on a *technical monopoly* unilaterally adopted by the "content owner", hardly limited by legal regulations. Table 1 below points out essential differences between the copyright regime and a digital content control regime:

Table 1: Comparing the properties of copyright and DRMs

	properties of copyright	properties of DCCE systems
<i>material scope</i>	Yes. The law defines what content is protected by authors' rights and related rights.	No. It can be applied to any digital content, irrespective of its copyrighted nature.
<i>term of validity</i>	Yes. After the expiry of the protection term, works belong to the public domain.	No. It can be applied to any digital content, irrespective of how "old" it is.
<i>restricted acts</i>	Yes. Only certain activities are subject to the exclusive right of the rightholder.	No. It can restrict any <i>digital</i> acts, irrespective of its relevance in copyright.
<i>exhaustion</i>	Yes. The rightholder can no longer control the distribution, if the copy of the work has been lawfully put into circulation in an EEA member state.	No. Although the distribution of physical copies can not be prevented by DRMs, the consumer can be kept from accessing the works, practically evading the law.
<i>conditions of exercising rights</i>	Yes. In some cases the copyright law provides for a mere right to remuneration without an exclusive right to license the use – see for example Article 12, Rome Convention on the communication to the public of a sound recording released for commercial purposes	No. The mere rights to remunerations can be turned to an exclusive right through a DRM technology.
<i>conflicts with other prioritised interests</i>	Yes. Exceptions, limitations from the exclusive right of the rightholder, in some countries these limitations are called "free" or "fair" uses – see Article 5, EUCD.	Partly. The EUCD appointed 7 paramount exceptions, the beneficiaries thereof can benefit from them – even against the technical protection.

This table clearly shows that use of DRMs tends to overstretch copyright. This topic was already subject in the INDICARE article "It's not a right, silly..." by Natali Helberger: While I have already commented online on the case she makes in her article (see [http:](http://)), in this article I will discuss the tension between copyright and DRMs more strictly. There are two theoretical aspects that need attention:

1. Firstly, the barriers of copyright are the outcome of long debates. If we think, that these debates were not in vain, some elements of these solutions should be applied to DRMs as well, as a legal regulation.
2. Otherwise: if – with the wide, unlimited recognition of DRM systems – we accept, that these barriers are not necessary, then we should consider, whether they are needed at all in copyright. Should we erase the definition of "public domain" from copyright?

The consumer protection issues addressed in the INDICARE State-of-the-Art Report (2004) are important, but they cannot answer the above questions. The purpose of that branch of law is different of copyright, and is only applicable to "consumers", although the DRM-problem affects all kind of users. *Copyright Law must continue to create a balance of interests.*

In the following I will first present the areas where the European legislator tried to solve the problem, before I will share some comments on those fields which the European legislator has not dealt with in order to find a balance of conflicting interests.

Regulation in effect

First I would like to present the current legislation contained in 2001/29/EC, the European Copyright Directive (EUCD), Art. 6.4. This regulation deals with the situation, when a technological protection measure (TPM) – and therefore the DRM system based on it – conflicts with the exceptions provided for by the Directive. The

problem is evident: in these cases the copyright holder would have no right to claim for remedies against the user, but with a technical action he can nevertheless prevent him from this use.

As every legislator, the European one also tries to balance the interests of copyright holders, of users and of other interested stakeholders. Therefore it grants exceptions from the exclusive rights to some beneficiaries with (theoretically) well-defined conditions. This effort could remain fruitless if the rightholders (or in this case we should rather call them "content owners") simply make this balancing technically impossible.

At this point we need to mention that the exceptions – although in some countries formalized as "rights" – basically give no enforceable right to users, they only mean the simple limitation of the exclusive rights under copyright (see e.g. Helberger 2004). In other words: when a country's Copyright Act states that someone "may freely make a copy...", it means, that if someone is able to make a copy, the rightholder cannot protest against it.

The European legislator tried to solve this problem as follows:

1.) The Directive, Art. 6.4, appoints seven prioritised exceptions:

- ▶ reproductions by reprographic means [Art 5(2)(a)];
- ▶ reproductions made by libraries, schools, museums, archives [Art 5(2)(c)]
- ▶ ephemeral recordings of broadcasting organisations [Art 5(2)(d)]
- ▶ reproductions of broadcasts made by social institutions [Art 5(2)(e)]
- ▶ illustration for teaching or scientific research [Art 5(3)(a)]
- ▶ uses for the benefit of people with a disability [Art 5(3)(b)]
- ▶ uses for the purposes of public security [Art 5(3)(e)]

It also appoints another prioritised exception separately:

- ▶ private copying of natural persons [Art 5(2)(b)]

2.) The regulation continues as follows: in these 7+1 cases, when technological measures make the exception unavailable to the public, "*the rightholders should make available to the beneficiaries of these exceptions the means of benefiting from that exception*". In other words, the member states are to give a first chance to the rightholders to deal with this matter, and only after they have failed to do so, legislators have to interfere. By the way, in app. 14 "other cases" the directive specifies when rightholders are not required to make the exercise of such limitations possible.

3a) In the first seven cases, if the rightholder does not make these exceptions available, the member states *shall* take "appropriate measures" to ensure their realization. It means that in cases when technological measures and exceptions conflict with each other, the latter triumphs. As the law finally can not give any other means to solve a legal dispute – in case the rightholder and the beneficiary of the free use can not agree in these questions –, the final solution of any such "appropriate measure" can only be a court decision on the case.

3b) In the case of private copying, if the rightholder does not make this exception available, the member states *may* take appropriate measures to ensure its realization. If a member state does not take any such measures to ensure private copying, nothing happens. The only "sanction" is that the member state will have to take into account the application or non-application of TPMs in the levies compensating rightholders for the private copying (see Art. 6.4 and 5.2(b) of the EUCD).

4.) The above regulations are not applied, i.e. TPMs prevail by all means, if the works are made available to the public on agreed contractual terms, for example through "online music shops". With the shift of copyright-related commerce to online solutions, this surprising regulation of the European legislator will become more and more discriminative and unjustifiable.

Regulations needed

The broad collision of technological measures and uses irrelevant to copyright is of course not a new discovery. “With the advent of technological measures for the control of access to and use of works, and with the beginning of the actual application of such measures, the question emerged quite logically whether these measures would – or should – allow the continued application of exceptions and limitations recognized by international treaties and national law” (Ficsor 2002, pp. 556-557).

However, up to now, all regulations addressed only the conflict of *exceptions* or limitations and technological measures. As I tried to demonstrate in the introduction, this topic covers only a small part of the problem. The controversy caused by DRMs is however much broader: what happens, if it prevents uses that are not relevant to copyright? What happens if it prevents uses of works not protected by copyright (e.g. news, folklore works, works of authors died more than 70 years ago)? These technical barricades also cause conflicts of interests.

What is the current answer to these questions?

- ▶ Under the WIPO Copyright Treaty (Art. 11) only technological measures “that are used by authors in connection with the exercise of their rights” are protected.
- ▶ Under the EUCD (Art. 6) only those technological measures are protected, that are designed to prevent or restrict acts, in respect of works or other subject-matter, which are not authorised by the rightholder of any copyright (...).’

It means (somewhat simplifying) that *if a technological measure is applied for not-protected works, it can be circumvented legally*. This solution is not a good one for those who could otherwise freely use these contents: they must become hackers to enjoy the public domain. But this solution is also bad for the “content owners” using

DRM technology to prevent acts: they will use the same technology to protect contents, and if someone freely hacks these measures, all their measures would become unprotected. And finally, it is not a good solution for the public at large, because it leads to an “armaments race” outside the rule of law.

The solution could therefore be a comprehensive re-thinking of the question. The simpler answer would be the total ban of using technological protection measures where no copyright exists.

Another option could be a general anti-circumvention protection to all technological measures. This would previously require a thorough investigation of every barrier of copyright: should they remain dead letter, or should we fight for their continued application? In my view however, at least the already existing regulation of the EUCD could be extended to DRMs which prevent acts that are otherwise not relevant from a copyright point of view. In the present situation it is quite absurd, that a library can ask publishers for copies of protected copyrighted works, but if a non-copyrighted content (e.g. an old poem or a court decision) is protected by technical measures, they can't. Again, the legislator should address the already mentioned 7+1 beneficiaries, and should prioritise them *also* against those TPMs which are preventing non-uses, or any acts regarding already-non-protected-works and non-protected-contents.

Bottom line

My – maybe unorthodox – conclusion contains a question and a request. The copyright legislation of the Community solved somehow the conflict between exceptions and technological measures. I would like to ask the INDICARE community (if any such exists) to help thinking out of the box and to address the following question: Does the conflict of otherwise freely accessible and exploitable contents and DRM systems need further legal regulation?

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Report on the 3rd DRM Conference, Berlin, 13th and 14th January 2005

By: Carsten Orwat, ITAS, Karlsruhe, Germany

Abstract: The present conference report is selective as its focus is on consumer issues of DRM. The debate about economic aspects of DRM and alternative compensation schemes is nevertheless taken on board too. While the original purpose of implementing DRM to prevent piracy has not been achieved, and the next objective of DRM to enable new DRM-based business models is still in its infancy, we can observe new reasons to implement DRM, for instance to stifle competition.

Keywords: consumer expectations, economics of DRM, competition, anti-trust, alternative compensation systems

Introduction

The third in a series of international DRM Conferences taking place in Berlin brought together a broad spectrum of DRM experts giving presentations and an audience of about 300 people eager to discuss. Financial support for this conference, as in earlier years, came mainly from the Ministry of

Science and Research of North-Rhine Westphalia, while the responsibility for the programme rested mainly with the University of Dortmund, Germany and Berkeley Center for Law & Technology, University of California at Berkeley, USA. The following conference report is selective, concentrating on three overlapping topics: consumer concerns, eco-

nomics of DRM, and alternative compensation systems.

Consumer Issues

Industry has learnt that DRM-based solutions have to respect consumer demands. For instance, *Johannes Mohn* (Bertelsmann AG, Germany) pointed to legitimate questions of consumers which industry has to address, such as: What about reselling or just giving away DRM-based products? What happens when a device gets lost? How to use protected content on different devices? Following Mohn it is inevitable to find out in a trial-and-error process what consumers want. The ideal DRM system would probably be one that won't be noticed at all by consumers.

Soichiro Saida (Vodafone) also stressed the importance of the customers' experience. In particular he acknowledged the expectation of anywhere, anytime with respect to CD usage, and pointed to seamless interaction of DRMs as a prerequisite. Superdistribution was seen as the most promising approach to realize the revenues predicted by analysts. Here again, interoperability is crucial and it is the client side industry which has to make the "DRM eco-system" work.

Tomas Sander (Hewlett Packard Laboratories Princeton, USA) repeated that consumer acceptance is the key factor for success. He put forward direct benefits of DRMs for consumers: different price points, new payment models, and new functionality. In addition as DRM enables individual compensation of rightsholders it will also be a much fairer system.

This view was not shared by all as the debate showed. The benefit of DRMs was questioned as new digital product types and flexible business models have also been developed without DRM. Another fundamental – not so new – objection against DRM was renewed by *Fred von Lohmann* (Electronic Frontier Foundation, USA), namely that DRM has failed to prevent piracy as predicted (see Biddle et al., 2002) and is not just a "waste of time", but also actually counter-productive, because copy-protected content drives customers to P2P. Further caveats were that the costs of building up the DRM

infrastructure – especially due to new devices required – are shifted to consumers, and transaction costs for consumers increase given the extra complexity of DRM-protected content.

Another interesting point of debate was about the role of copyright exceptions. Fred von Lohmann was sceptical that the market comes to solutions in which copyright exceptions are adequately acknowledged since the groups for which exceptions were established are less powerful. *Thomas Dreier* (University of Karlsruhe, Germany) underlined that in his opinion DRM will not be accepted by consumers if existing statutory exceptions are overridden by technical means and/or legislation. He was however a bit less sceptical than von Lohmann and recommended switching from object-oriented to user-oriented DRM design. Consumers should be provided with a non-transferable key that is specific to their statutory use privileges. He sketched a possible solution based on public key infrastructure (PKI) with a Trusted Third Party (TTP) infrastructure.

In the opinion of *Cornelia Kutterer* (Bureau Européen des Unions de Consommateurs (BEUC), Belgium), the advantages of DRM-based content distribution for consumers have yet to be shown, in particular greater choice and the reduced costs for consumers of protected content. Today legal uncertainty prevails combined with shrinking legitimate uses, shrinking public domain, segmentation of markets, draconian enforcement, and dubious marketing or "education campaigns". Her positive vision was that DRM will be adjusted to business models and business models will be adjusted to consumer expectations. She asked consortia developing interoperable DRM to invite data protection and consumer advocates right from the start.

Deirdre Mulligan (University of California at Berkeley, USA) explained how she understands consumer expectations of personal use which are usually defined by the capabilities of devices. Such capabilities are normally determined by legal rules, which themselves are generated in view of consumers' expectations. Thus, expectations of personal use of digital content stem from a mixture of "fair

use" exceptions, "first sale" rights and factors that are unregulated in copyright laws (i.e. use habits such as annotating a book's pages, physically removing pages, reading a book in a foreign country, or making personal music selection from CDs for private uses). Referring to results of a study (Mulligan, Han, and Burstein, 2003) she argued that many online music services do not respect consumer expectations such as portability and privacy. She recommended policy measures especially in the field of competition policy and consumer protection law.

Thorsten Wichmann (Berlecon Research, member of INDICARE) argued that consumers expect "fair use". Such fair use can be reached, firstly, by clear rules which have to be found between the extreme positions of consumers and content owners. In his opinion a discussion is needed, for instance, on where "fair use" ends and "piracy" begins. He urged to "fix the numbers", i.e. to clearly determine how many copies are legal, how many "friends" can be supplied, et cetera. Secondly, the rules have to be made bilaterally instead of being dictated by the supply side alone. Thirdly, in his opinion the market should be the referee of the rules defining. Consumers vote with their wallets and this would be the strongest force to come to consumer-friendly solutions. However, he emphasised that until now little is still known about consumer needs in relation to DRM and DRM-protected content.

Martin Springer presented goals and work of the Digital Media Project (DMP). Its main objective is to develop standards for interoperable DRM. DMP is developing – alongside its technical specifications – a recommendation on transferring so called "Traditional Rights and Usages" (TRUs) from the analogue to the digital space. Examples of TRUs are to quote, make personal copy, shift content in space and time, use copyright-expired content, or use content anonymously. In their opinion, DRM has the potential for an imbalance, which may reduce the "TRUs" of media users and may in the end lead to a rejection of DRM.

Turning to privacy *Lee Bygrave* (University of Oslo, Norway) doubted that market forces

will provide more privacy-friendly solutions, first of all because consumers are too superficial in this respect. Therefore he called for awareness raising measures. DRM systems have a considerable potential to collect personal information, and this issue is not well regulated. Uncertainties exist with respect to technical processes, e.g. how DRMs are talking to each other, and with respect to legal provisions, e.g. it is difficult to apply the data protection criteria of "necessity" (only such information can be collected that is necessary for a defined purpose) in the DRM context. A reform of the European Copyright Directive would be required to stimulate the implementation of "privacy-enhancing technologies" (PETs) in DRMs.

DRM and TC

It became clear at the conference that DRM and trusted computing (TC) is a consumer issue too. At first sight the promises of TC are in the interest of consumers using PCs. *Graeme Proudler* (Hewlett Packard Laboratories Bristol, UK, and Trusted Computing Group) explained that DRM is just one of a broad range of applications based on TC. It is mainly designed for the protection and processing of secret and private data. In the short term, protected storage is envisaged with TC, i.e. that customers will be able to protect data on hard disks more securely than with software solutions. In the mid term, integrity checking should be possible, enabling the automatic prevention of unwanted programmes to access information. Furthermore, in the long term, customers and their partners will be able to connect their IT systems and expose only the intended data ("trusted ecosystems").

However, there are considerable caveats. *Stefan Bechtold* (Max Planck Institute for Research on Collective Goods, Bonn, Germany) drew attention to some of the problems. He questioned if TC is a good basis for DRM systems due to their limited protection against local attacks and the high complexity of "platform state attestation" on the consumer side. Content providers might be able to misuse the possibility that TC allows to bind objects to particular platforms. Another type of misuse could be based on "remote

attestation" which allows third parties to check the integrity of PCs – with the help of the Trusted Platform Module (TPM). This bears the risk of anti-competitive behaviour, when e.g. interoperability can be denied, because software by competitors is detected on a PC. *Seth Schoen* (Electronic Frontier Foundation, USA) also highlighted the anti-competitive potential of TC (see also Schoen 2004). The verifier would get identity information which would lead to an unprecedented situation. He sees the risk of a "super-spyware" that controls attestation. In the discussion *Ross Anderson* criticised particularly the intransparent proceeding of the Trusted Computing Group (TCG). The risk that the specifications might be captured one day by a single player was pointed out and there was criticism that TCG is taking no measures to avoid this.

Economic aspects of DRM

Economic issues were addressed in different sections of the conference, many of them about competition at the end of the day.

Keynote speaker *Hal Varian* (University of California at Berkeley, USA) believes that "in the long run, ensuring competition is more important than determining the default rights". It is likely that a standardised set of usage rights will evolve. Markets and society should have the ability to experiment with sets of rights. He emphasised however the threat of monopolisation in DRM technology due to the need for standardisation. For content and device suppliers it is much easier to produce for a single standard (see the DVD example). To avoid the potential misuse of a proprietary standard he called for open systems like the Internet or GSM standards. At the same time he warned that seemingly open systems could be captured by single parties. Fully open standards with no proprietary extensions would be required and a governance system with a lot of checks and balances.

It was also interesting that Varian put the emphasis on DRM in B2B relations, i.e. rights clearing in the content industry. In his view, maybe the greatest benefit of DRM could be the reduction of transaction costs of rights acquisition. However, the solution of

establishing an online registry has not received the attention in public policy it deserves.

Pamela Samuelson (University of California at Berkeley, USA) criticised some developments in the USA, especially the misuse of TPM and DMCA for anti-competitive behaviour, and so did *Todd Alsterstone* (RealNetworks Inc., USA). He pointed to some notorious legal cases demonstrating how companies misuse the anti-circumvention rule of the Digital Millennium Copyright Act (DMCA) to stifle competition (e.g. "Chamberlain Group vs. Skylink Technologies", i.e. the "garage door opener" case, and "Lexmark vs Static Control Components"). In these cases competitors who circumvent a proprietary protection technology embedded in a product – here remote controllers for garage door openers and printer cartridges – were sued under the DMCA by market incumbents.

Bernt Hugenholtz (Institute of Information Law, IViR, University of Amsterdam) scrutinised "regional coding" in the light of the anti-circumvention provisions in the European Copyright Directive (EUCD). He shrewdly argued that – depending on the TPM – removing regional coding might be legal, because the EUCD only protects those TPMs from circumvention which refer to explicitly non-authorized uses. Hugenholtz recalled the internal market goal of the European Commission of avoiding market fragmentation which has been emphasised also with respect to TPM (see report on the "satellite directive" European Commission 2002). During debate a discussant pointed to the already existent market segmentation by TPM referring to the higher prices of iTunes in UK compared to other European countries.

DRM and Alternative Compensation Systems

The debate about alternative compensation systems was one of the most interesting ones as the schemes proposed get more and more sophisticated and down to earth – of course not escaping sound criticism. *Volker Grassmuck* (Humboldt-University Berlin, Helmholtz Centre for Cultural Technology, Germany) said that there is no evidence that a

stronger protection of content leads to higher innovation and creativity. He proposed a so-called "culture flat-rate" (or content flat-rate) to compensate artists – an approach with lower systems costs compared to DRM, and without controlling consumers.

William W. Fisher (Harvard University, USA) listed some disadvantages of DRM ranging from additional transaction costs, inconvenience and additional costs through lack of interoperability, impediment of consumer creativity, to the economic and cultural losses caused by price discrimination. Referring to his book (Fisher 2004) he suggested an alternative compensation system, in which – very briefly sketched out – artists register at a central office under a compulsory license. A tax is imposed on digital consumption (in particular on P2P) and the collected money is distributed to artists according to their popularity measured by a counting system.

Alexander Peukert (Max Planck Institute for Intellectual Property Law, Munich, Germany) criticised the scheme proposed by Fischer pointing to the incompatibility with international treaties. The scheme would not pass the "three step test" of the Berne Convention (i.e. a set of provisions that define permissible limitations and exceptions of national copyright laws under international IPR treaties). In contrast, Peukert suggested a "bipolar" system that would better fit with international treaties since it is close to the already existing dual compensation systems in many European countries. Authors would have the choice between the individual exercise of exclusive rights or to use collective compensation systems.

Bernt Hugenholtz also criticised the approach of Fisher and a similar one by Netanel (2003). He pointed out some defects of levy schemes, reminding of the long-lasting experiences with them in most European countries. Such defects include the intransparent repartition of the collected money to the creators and right holders, the complex and

protracted administrative procedures of setting the "right" tariff for the levy, and the unfair treatment of those consumers who use a device or service with a levy on it (e.g. PC of ISP services), but are not engaged in P2P file sharing. Furthermore, levy schemes generally require a complex administration and the scheme proposed by Fisher would require an even larger one.

Susanne Dehmel (BITKOM, German Association for Information Technology, Telecommunications and New Media) added to the criticisms of levy schemes the argument that currently – and more in the future – the number of devices that are capable of copying, and therefore potentially imposed with a levy, will vastly increase including more and more multi-purpose devices for which levies for private copying of copyrighted material seem unfair.

Private and collective licensing will be necessary and existent in parallel for the near future, said *Eric Baptiste* (International Confederation of Societies of Authors and Composers, France). DRM is no rival for collective licensing because collecting societies have more functions than enforcing licensing, especially for international distribution and to establish bargaining power. At the moment, he regards levies as more effective than DRM. In the future, collecting societies would have to better cope with the multi-purpose ability of devices.

Bottom line

Apparently DRM has not fulfilled its original purpose of piracy prevention. It is becoming obvious that DRM can also be employed for other purposes such as for anti-competitive behaviour, to gain market dominance, lock-in consumers, and maintain price discrimination or to experiment with new compensation models. Thus, in my opinion, the focus of public policy has to be shifted accordingly from copyright issues to consumer protection and to policies of innovation, anti-trust and competition.

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Getting the work of MPEG-21 right A comment to the first INDICARE state-of-the-art-report

By: Chris Barlas, Rightscom Limited, London, UK

Abstract: This comment is specifically about one of the issues covered in the report, namely the creation of usage rules with RELs I think that the report has not fully informed itself in this area, particularly with regard to the activities within MPEG-21.

Keywords: rights expression language, MPEG, XrML,

XrML and the activity in MPEG are connected

I think that the report has not fully informed itself in the area of RELs, particularly with regard to the activities within MPEG-21 (Moving Pictures Experts Group Multimedia Framework initiative). In para 5.6.4, the concluding remarks of the chapter on technical aspects (Helberger et al. 2004, p. 92f) there is a significant factual error, which leads the reader to assume that XrML (eXtensible rights Markup Language) and the activity in MPEG are not connected. In fact they are, as

XrML provided the baseline for the MPEG REL. Furthermore you refer to IPMP (Intellectual Property Management and Protection) as though it were a REL. It is not. IPMP covers all the activities that can be brought together generally under the DRM acronym.

MPEG went out of its way to avoid using the DRM tag, simply because it didn't want to be saddled with legacy thinking. The current MPEG-21, part 4 is now called "IPMP Components" and at present it provides tools to enable different proprietary DRM systems to talk to each other. Currently there is no inten-

tion within MPEG to specify any kind of security algorithm that could be used for encryption. The specification, at heart, is about messaging.

What MPEG really is and does

This brings me on to a wider point, which is the whole issue of your coverage of MPEG-21, which is not really very adequate. Over the five years since its beginning, MPEG-21 has specified a whole bunch of tools that could be used in combination to create an environment for the secure delivery of content. While a lot of these specifications have, apparently, nothing to do with DRM, they are all focussed ensuring that all users in the system can have access to standard technologies. For instance, "Digital Item Adaptation" provides tools to ensure that content can be rendered on different platforms, an essential part of interoperability. "Event Reporting" is being specified so that both rights holders and consumers can have an audit trail. While I don't expect anyone to have the extensive knowledge of MPEG-21 possessed by those intimately involved in the standard, I think that it would have been possible to see that the MPEG-21 initiative is an honest attempt to work on many of the issues covered by the INDICARE report.

Why symmetric REL is a misnomer

Finally, I would like to bring to your attention MPEG-21, Part 6, the "Rights Data Dic-

tionary", in which I was closely involved. This is an attempt to provide a platform for interoperable metadata for rights, so that content from different metadata environments can be integrated.

That said, there is some other work we are doing connected with the RDD that I'd like to mention. This is in the area of rights statements, which we believe can be used to create offers. At the moment, RELs are all about permissions rights holders give to consumers. It is a one way business. The issue of symmetric RELs (Niels Rump and I wrote about this for Indicare, see Rump and Barlas 2005, and rejected the term) is that they maintain the "permission" modality and do not embrace the *negotiation modality*. Rights statements would be part of an agent based negotiation process. Certainly, without the rights statement (here's my offer, you can do this, this and this, but not this and if you do this, we will do that), you cannot move on to any kind of automated negotiation based on personal profiles. That is, I think, where we need to get to.

Bottom line

The INDICARE report addresses the right topics, however picking up one technical aspect, namely Rights Expression Languages (REL) and the work of MPEG-21 there is room for improvement.

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Masthead

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