

# INDICARE Monitor

## 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 of INDICARE Monitor Vol. 2, No 7, 30 September 2005

By: Knud Böhle, ITAS, Karlsruhe, Germany

**Abstract:** One focus of the present issue of the INDICARE Monitor is *online music*: on the one hand we report about the trend-setting music fair Popkomm, on the other hand we descend to China's and Hungary's online music realities. The second focus is on *B2B relations*: between online music providers and collecting societies, between publishers and libraries, and between the actors in the educational publishing market. Finally, we present the findings of a Technology Assessment on digital rights and DRM carried out in Denmark.

**Keywords:** editorial – INDICARE

### About this issue

#### *Online music here and elsewhere*

The issue starts with a country report about China written by *Anna-Lucille Montgomery*, a researcher from Australia. Her article is based on desk research and interviews with Chinese experts. The subject is the online music market in China, which is embedded in the broader picture of ICT penetration, social habits and legal developments since China became member of the World Trade Organisation. It is against this background that the potential role of DRM systems and innovative business models is discussed. She concludes that "consumers who are used to receiving content for free will not willingly shift to a system which expects them to pay" and "the copyright environment in China may force intellectual property owners to move away from a royalty-based system for content provision".

The next article moves us from Far East to Eastern Europe, but the topic of online music is still the same. *Kristóf Kerényi* shares his hands-on-experience with online music services in Hungary. He describes his experiences as distressful: limited choice, high prices and low level of service. No wonder that in this situation file-sharing as well as illegal music and video downloading are dominant. Consequently "DRM-based services will have to become a lot better to beat the free offerings of the (dark)net". However, without competition, this won't happen.

*Nicole Dufft* attended Popkomm 2005 in Berlin, one of the important music industry fairs, a place to watch out for new developments in the online music business. She found that the

hype about DRM has decreased. From being a prominent topic onstage it apparently turned into a mere technical problem, and this type of problem is usually dealt with backstage. The hot topics of the fair were: mobile music, podcasting, new radio formats, and subscription services vs. a-la-carte downloads. Nicole regards the music industry as "becoming more creative and innovative" offering better services to consumers.

#### *B2B business models with or without DRM*

The next issue is again about online music, and it is about B2B DRM. *Margreet Groenenboom* is carefully explaining the "Study on a community initiative on the cross border collective management of copyright" prepared by the European Commission and released 7 July 2005. It is worth mentioning that the paper is based on a stakeholder consultation and that presently the consultation of stakeholders goes on (80 reactions so far).

In this paper the Commission reflects how cross border licensing practices might be improved. The most important stakeholders are on the one hand online music shops striving to deliver their services throughout Europe, and collecting societies with whom licenses have to be negotiated. The current situation requires rethinking the role of collecting societies, and an assessment of the potential of DRM systems to make this licensing business more effective. I imagine a good solution would help to solve some of the problems *Kristóf Kerényi* described for Hungary. In my view it is important here, not to mix up B2B DRM with B2C DRM. Effective solutions of this cross border licensing issue will probably rely on B2B DRM, but this assump-

tion does not say anything about the need of B2C DRM.

The licensing relationship between academic publishers and libraries is the topic of the next article dealt with by *Brian Green*, an outstanding standards expert in the publishing business. The question is how digital rights should be managed in the B2B relation between academic publishers and libraries. This is an issue, because the number of digital resources in libraries is growing and libraries have to cope therefore with many different licensing terms. What is needed are appropriate metadata standards. Brian Green reports about initiatives and the state of the art in this field. In his outlook he states that "... in addition to the technical work remaining, there are still several practical and political issues to be dealt with". Among them is the concern that the development of these metadata standards may lead to the introduction of DRM enforcement technology into the relationship among publishers, libraries and library users. Brian Green is convinced that this worry is unfounded.

*Paola Mazzucchi*, AIE (Associazione Italiana Editor), presents findings of the OrmeE project funded by the European Commission's eLearning programme. OrmeE stands for the "Observatory on Rights Management for eLearning in Europe". Its perspective is the role of educational publishers in the emerging transnational e-content market.

Traditional textbook publishers have to deal with new competitors, among them companies specialised in e-Learning or technology companies. In this new market, content providers, aggregators, and distributing intermediaries have to find business models (9 types of constellations are presented in the article), which meet the needs of the educational world. Licensing models to be adopted are a crucial issue, and in this context DRM has become a topic of discussion. Among the

**About the author:** Knud Böhle is researcher at the Institute for Technology Assessment and Systems Analysis (ITAS) at Research Centre Karlsruhe since 1986. Between October 2000 and April 2002 he was visiting scientist at the European Commission's Joint Research Centre in Seville (IPTS). He is specialised in Technology Assessment and Foresight of ICT and has led various projects. Currently he is the editor of the INDICARE Monitor. Contact: + 49 7247 822989, [knud.boehle@itas.fzk.de](mailto:knud.boehle@itas.fzk.de)

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current problems of educational publishers highlighted by Paola Mazzucchi is the poor adoption of complex DRM systems by educational publishing houses, and the lack of a truly harmonised legal framework. In her words: "... despite the stated goal of harmonising national copyright legislations, the implementation of the 2001 Directive has not yet achieved much in making the exceptions in the field of educational uses converge. It is therefore crucial to find and support best practices that demonstrate the actual possibility to combine copyright protection and effective access to content by educational organisations and individual learners".

#### *Technology assessment of DRM in Denmark*

The final article of this issue, titled "Digital rights in the information society" presents the result of a study about "consequences and implications of digitalisation and DRM" carried out by the Danish Board of Technology. A working group of stakeholders was set up to debate and outline a new balance between consumers' and rightholders' interests. However, insufficient practical experience with DRM systems and a divergent understanding of what DRM really is, turned out to be a major obstacle to achieve this goal. Nevertheless the concerns and recommendations, as described by *Jacob Skjødt Nielsen* are very interesting. Just to highlight some of them: one recommendation is to intensify cooperation between ministries in these matters, another to organize further consensus building activities with a long-term perspective in mind. A need for new usage rights, a need for interoperability and open standards, and a need to gain more experience with DRM in the public sector were further points. All in all, the debate in Denmark appears to be rather similar to the debate in other comparable European countries – in other words: the Danish Technology Assessment is a piece of European debate.

## Online music markets in China

### The broader picture and the role of copyright and DRM

By: Lucy Montgomery, QUT, Brisbane, Australia

**Abstract:** China is one of the most difficult markets in the world for copyright owners. Illegal distribution networks are well established and consumers are used to content that is either free or very cheap. China's legal system is still in the process of developing and the Chinese government regularly fails to enforce its own IP legislation. As a result, translating formal rights into royalty payments is extremely tough. This article, which is based in part on interviews by the author, describes the present communication infrastructure, social habits, and the copyright environment in mainland China. Against this background the potential role of DRM systems and innovative business models is discussed.

**Keywords:** country report – business models, consumer expectations, copyright law, music markets, piracy – China

#### Music downloading and sharing in China

At present, rates of music piracy are high throughout China's audio-visual industries. Music industry executives generally quote piracy rates of between 75% and 95%. Disc piracy is common, particularly in wealthier cities along China's eastern seaboard. People living in less affluent or developed areas still use pirated audio cassettes, which are cheaper to copy than digital media. Cassette players, which are capable of both playing and copying music, are much more affordable to people living in poor areas of China than computers. They are also easier for less educated sectors of the population to use: they do not require computer literacy or the ability to Romanise Chinese characters (pin yin). Expensive hardware investments are also unnecessary, allowing anyone with a tape recorder and a blank cassette to copy and share music using this format, regardless of their access to the internet.

At the same time, the development of an extensive broadband network in China's cities and growing levels of PC ownership among the emerging urban elite are also resulting in high levels of music downloading. MP3 downloading is particularly common among university students and young professionals, who are more likely than other sectors of China's population to have access to the Internet, an interest in music and the skills to engage in this activity.

Consumers have no incentive to pay for MP3 downloads. Chinese Internet search engines such as baidu (<http://www.baidu.com.cn>) and emule (<http://www.emule.com.cn>) provide fast, free, easy music downloading. To date, members of the public have never been prosecuted for downloading music illegally, although action has been taken against some websites by copyright owners (China Economic Review 2005).

Music labels such as Sony have been involved in high profile events aimed at raising awareness of the impact of piracy on the music industry and on artists: in November 2003 between 50,000 and 60,000 people packed Shanghai Stadium for the Asia Superstar Anti-Piracy Rally Concert.

China's central government has undertaken a number of publicity campaigns encouraging consumers not to purchase pirated audio-visual products, including television and billboard advertisements with slogans such as "be a good Beijinger, resist piracy". In spite of these efforts, Chinese consumers face little, if any, moral stigma related to music downloading. Consumers are now used to downloading music without paying, and even if they did want to download legally, few legitimate services are available. According to *Beaker Huang*, Marketing and Business Development Director for Warner Music, China, it took Warner a long time to realise that university students were not their biggest market, but their biggest liability: "...as soon

as they get to college the only way they are going to be spending money on music is they keep on spending money to upgrade their PCs so that they can be downloading more songs.” (Montgomery 2005a).

#### **PC ownership and access to the Internet**

Internet access is growing rapidly and MP3 players are cheap and readily available. According to CNNIC (2005) there are 103 million internet users in China, 53 million of whom have broadband. High speed broadband networks are being rolled out in most urban centres and China is expected to have 34 million broadband subscribers by the end of 2005. This is impressive, when compared with the United States – which has 39 million subscribers. By the end of 2007 China is expected to have 57 million broadband subscribers, compared with a projected 54 million in the US (Reardon 2005). Although at present only about 2% of Chinese households own PCs (Kessler 2004), this number is growing fast. By 2010 it is expected that 178 million new PCs will have been purchased in China (BBC 2004). Internet cafes are still playing an important role in providing access to the Internet. This has significant implications for the types of online music models that new media developers might choose to apply in China. According to *Ruuben van den Heuvel*, Vice President of digital business Asia at Sony BMG: “In China 100 million people access the Web through Internet cafes. For them it is not about downloading, it is about the experience. In the US it is still all about ownership” (Frater 2005).

Projects like Microsoft’s Venus operating system have focussed on dramatically lowering the cost of accessing the internet from home, a move which would help bring millions of previously isolated consumers into the digital realm. Venus is designed to allow a web browser, a low end personal computer and a video compact disc player to be combined in a single box that can be used in conjunction with a television, for people who cannot afford a traditional PC (Reuters 1999). Another, more recent development is Internet Protocol Television (IPTV; cf. sources), which allows television or video signals to be distributed over broadband, using Internet protocols. Telecommunications

providers are also looking towards IPTV as one of the next major developments in content delivery in China. Rapidly rising rates of broadband penetration and the launch of IPTV services by Internet service providers will undoubtedly create new opportunities for digital content providers. According to IDC, although there are expected to be less than 300,000 IPTV subscribers in China by the end of 2005, this figure is expected to reach 9 million by 2008 (Le Maistre and Newlands 2005).

#### **Mobile devices and services**

China has experienced enormous growth in mobile phone uptake over the past five years. Each month about 5 million people sign up for mobile services for the first time (Kessler 2004). Saturation of the handset market is prompting the industry to focus on handset upgrades and value added services. Mobile technology companies predict that overall growth in the market will continue, and expect to see sharp increases in demand for mobile content as 3G networks expand and the content becomes more affordable.

Mobile phones are already providing an important revenue stream for Chinese record labels. Consumers are paying for mobile ringtones (*cai ling*) and ringback tones and copyright owners have had some success in ensuring that they receive a portion of the money being spent on these services (Montgomery 2005a, c, d). Many record industry players see mobile content as key to the future of China’s music industry (Montgomery 2005b, c, d, e). Chinese consumers are spending a high proportion of their income on mobile telephones, accessories, and content required to personalise them.

In contrast to the slow development of online MP3 sales, two important factors are making it possible for a copyright compliant mobile music market to emerge. These are

- 1) An established billing system; and
- 2) The ability to control the distribution of mobile phone content through a limited number of mobile service providers.

The cost of mobile content services is simply added to each customer’s monthly bill (Montgomery 2005a). Mobile service pro-

viders are responsible for collecting payments and passing royalties (or a negotiated fixed amount) on to copyright owners.

### **Legal protection for copyright owners and user rights**

Membership of the World Trade Organisation requires China to enforce its domestic intellectual property laws and to meet the obligations relating to copyright protection set out in the agreement on Trade Related Aspects of Intellectual Property (TRIPS). China has been involved in a steady process of copyright reform in accordance with international practice since the 1980s (Qu 2002). In November 2001, as a result of joining the World Trade Organisation, the government approved amendments that brought China more closely into line with TRIPS and the Berne Convention (Fitzgerald and Montgomery 2005).

#### *Anti-circumvention provisions*

Technical protection measures put into place by the copyright owner are explicitly protected under Article 47 of the Chinese copyright law (1990). Civil and administrative remedies are available for any act of intentionally circumventing and damaging protection measures put into place by the copyright owner, and for deliberately deleting or altering electronic rights management information, without the copyright owner's consent (Fitzgerald and Montgomery 2005).

#### *Moral rights*

Authors have a right to be acknowledged for their efforts (a right of attribution) and a right to be consulted in relation to any changes made to their work (rights to alteration and integrity) for an unlimited period. These rights exist separately from the economic rights associated with copyright, and continue to belong to the author even after the exploitation rights have been sold on. Copyright is protected for the life of the author plus fifty years. Works created by corporations or other entities are protected for fifty years, as are cinematographic, film or photographic, television or audiovisual broadcast radio and television programs (Fitzgerald and Montgomery 2005).

#### *Fair use*

China's copyright law provides extensive fair use exceptions, including for "private study, research or self-entertainment". Nonetheless, copyright owners do have legal protection against sites providing music downloads without payment to or permission from the copyright owner. In addition to the anti-circumvention provision of the law, it is an offence to reproduce or distribute a product of sound or video recording, or to make it available to the public through an information network, without the permission of the producer.

#### *Legal remedies*

According to articles 46, 47, 49 and 50 of the copyright law, victims of copyright infringement can seek civil and administrative remedies, including monetary damages, injunctions, public apology and destruction of offending products. The onus of proof rests with alleged infringers. The copyright law requires infringers to pay compensation according to the actual injury inflicted on the copyright owner by the infringing act, or according to the profits derived from the infringing work. In cases in which it is difficult to establish the right holder's actual injury or the infringer's unlawful income, the courts may award statutory damages of up to 50,000 RMB (approximately US \$6,200). China's 1997 Criminal Law also provides penalties of up to seven years imprisonment for copyright related offences.

Three channels for copyright enforcement exist in China: Civil, Administrative and Criminal. Civil action requires parties to take action on their own behalf, through the courts, in response to infringement of their rights. Administrative action is taken by the Administrative Department for Copyright directly, rather than through the courts. Prosecution of criminal actions can only be undertaken by the state. This means that, in addition to civil action, copyright owners also have the choice of working with the copyright department directly in order to stop infringement. The Copyright Department has the power to issue injunctions, confiscate unlawful gains, confiscate and destroy infringing material and the tools used to create them, and to issue fines to punish infringers.

However, while administrative authorities have the power to impose fines, only the courts have the power to require infringers to pay compensation to copyright owners.

### **Discussing the role of DRM and alternatives**

The biggest challenge for Digital Rights Management in China is the availability of un-protected content. It is unrealistic to expect users to pay for content that carries restrictions relating to the ways in which it can be copied, shared and re-distributed while unrestricted versions of the same material are available for free elsewhere.

Current levels of piracy are forcing copyright owners in China to develop business models that take into account the distribution environment. Major record labels originally attempted to charge Chinese audiences prices for CDs comparable to those demanded in markets such as the US and Australia. However, since 2003, all of the major labels have lowered their prices in an attempt to compete with pirated products (Montgomery 2005c, d, a). Advertising, product endorsements and sponsorship are also being pursued as important strategies to generate revenue streams.

Ring tone downloads and ring back tones are arguably more significant as a source of income for many Chinese music industry players than royalties from album sales. Artist management services, which allow record labels to capitalise on advertising, publicity and concert fees generated by their stars, are also much more significant in the Chinese music industry than they are in markets where intellectual property rights are easier to enforce.

In this environment, new technology, which can be engineered with controlled distribution in mind, will play an important role in China, where existing media formats, such as cassettes and CDs, are already established as the centre of a massive industry of un-regulated distribution. It is highly unlikely that the genie can be put back into the bottle when it comes to established piracy networks. Nonetheless, technological developments that force content to pass through a

limited number of regulated portals may help to secure new income streams in the future.

The success of mobile content services in an environment where most copyright owners are struggling to realise the value of their intellectual property may provide lessons for the sector more generally. The fact that consumers have no choice but to purchase mobile services from a restricted number of mobile providers makes it possible, for the most part, for copyright owners to monitor the distribution of their products. It is conceivable that similar arrangements with IPTV service providers may help to resolve some of the problems associated with micro payment for online content as the sector develops.

Greater transparency and accountability within China's group collection agencies, as well as among internet service providers and search engines will also be crucial to realising the potential of China's copyright industries. The availability of illegal online content cannot be controlled without such changes. But reducing the availability of free online content will not be enough. China's copyright owners will also have to ensure that legitimate content is available quickly, conveniently and easily to consumers when they want it. The impact of DRM measures on the attractiveness of the content being offered will need to be considered in the context of this supply/demand equation.

### **Bottom line**

It is possible that the copyright environment in China may force intellectual property owners to move away from a royalty-based system for content provision. Advertising is already playing a vital role in generating music industry income. It may be necessary for record labels to consider an integrated business model, in which content is given away online, in exchange for audience numbers and willingness to purchase mobile content services, merchandise, tickets to live performances and other associated products. It may be time for China's music industry to accept that the intrinsic value of their products lies in the ability to attract audiences, to entertain, and to spark an interest in purchasing associated services. Consumers who are used to receiving content for free will not

willingly shift to a system which expects them to pay. This will be particularly true if the products they are asked to purchase are

rendered less attractive and convenient to use by DRM restrictions.

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**About the author:** Anna-Lucille (Lucy) Montgomery is a doctoral candidate and researcher at Queensland University of Technology's Creative Industries Research and Applications Centre. She is currently completing the final year of her PhD, titled: Copyright, Creativity and Economic Development: Intellectual Property and the Creative Industries in Post-WTO China. E-mail: [a.montgomery@qut.edu.au](mailto:a.montgomery@qut.edu.au)

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## Online music in Hungary

By: Kristóf Kerényi, SEARCH laboratory, Budapest, Hungary

**Abstract:** For legal reasons, and also because of the smaller and less substantial market, big players of today's online music are not active in Eastern-Europe. The author takes the example of Hungary and introduces the current situation and difficulties when buying digital music online, from the consumer's point of view. Lack of competition causes high prices and low level of service, the combination of which favours unofficial and illegal sources of digital content.

**Keywords:** Hands-on-experience – consumer expectations, music markets – Hungary

### Introduction

On 26 August T-Mobile Hungary, the Hungarian subsidiary of Germany's global telecommunication provider announced the official launch of its 3G mobile network (cf. sources). Not that there hadn't been 3G mobile services before in Hungary, it's only that these were not yet "official". Both of the other two mobile operators, Pannon GSM (owned by Telenor, Norway's largest telecommunications group) and Vodafone Hungary have their own "experimental" 3G networks, meaning that in many cases consumers can use these networks for free, and they can experiment with the new line of services (video conferencing, mobile TV, fast data communication). Of course when one wants to promote the new, faster generation of mobile access (together with the higher rates), adequate services running on it are also needed. So T-Mobile – in the same press release – also announced a new music download service.

On the same day, I read a rather negative review of the service (Ady 2005). So, having tried music downloading in Hungary before, I decided to take a look at the market, and write an objective, and at the same time very opinionated review of what choices a Hungarian person has to obtain digital music from the "network". Thus I am looking at the situation as a consumer, and will come to the conclusion that in our country today legal download services are just not an option.

### A game with few players

A year and a half ago, in April 2004 Hungary's first paid music download service, "Origo Play" was launched by a company

named Axelero, the ISP owned by the Hungarian national telecom company (today T-Com). So I gave it a try earlier this year, just to experience the feeling of paying for downloading music. I also wanted to write an article about it, but my experience was so scarce and disappointing that it would have rather been a complaint.

Last week I tried to find all "official" music download services available here, but there were only three of them. I also tried to gather information at the Hungarian Bureau for the Protection of Authors' Rights, because they must know about all of these, but I was a bit disappointed to learn that there are just a few players on the market.

Starting from the back, they directed me to some sites which already have their permission but haven't started their service yet; there are also radio stations (among them the Hungarian Radio) that make past broadcasts, and musical programs available for downloading, among them in many cases real "treasures": old recordings and rarities (cf. sources). However, none of them is a paid service and, as a consequence, they are not DRM-protected. Some make available their downloads in unprotected Real Audio format, others use the free OGG Vorbis format.

I also took a look at the three Hungarian mobile service providers: Vodafone, in spite of being the biggest European operator, currently does not have a music download service in Hungary (however, as I learned they have a licence to start it), the other two have almost identical services and pricing (cf. sources).

With one Internet-based offer available to everyone (the mobile operators' services are just for their own subscribers) this makes three options, which do not even compete, since mobile phone subscribers usually do not decide on the basis of the available music services...

### The single Internet offer

Every day we hear about the success of internet music download services: iTunes, Connect, MSN, Real and Yahoo are just a few examples, so one might think that we have a huge selection to choose from. The sad truth is that because of legal issues and distribution agreements with the labels none of the mentioned services are available in Hungary. So we have to stick with the only Hungarian download service, which is operated by the local branch of T-Online (cf. sources).

At least this service can be tried by everyone... Well, not exactly everyone, just those who use Windows, and a compatible portable player, since this music store uses Microsoft DRM. Otherwise the whole purchasing process is quite fine. They have a user-friendly interface, lots of information on the used technology, also on DRM, what can and cannot be done with the tracks, and so on. The selection can be searched by title, band or album, or one may just browse by genre. The only problem is that *this meta-information* is completely messed up (e.g. Pantera (Metal) and Adam F (Drum & Bass) are both classified as Pop, *Bódy Magdi* (mostly Jazz) is classified as Soul). As I mentioned already, I decided to try it just for the feeling. I was looking for something that I like, and interestingly I did not find such songs easily in the selection. Alright, I have a little bit non-conformist musical taste, so this didn't really disturb me. Since then I have visited the music store a number of times and I found out that *there are* bands that I like, I just do not find them easily. And now with a decent line of history I would expect at least some personalized offers like "users who bought this liked those too" – like in the "big" stores. By the way, the selection consists of 130,000 songs, and is continuously growing. However, as I mentioned, important meta-

information is missing, or false. Therefore one of the main advantages of music stores, namely *information* (Kerényi 2004), does not apply here.

When we have already found what we would like, we can listen to the first minute of the track to decide whether this is really the desired song. Of course this first minute comes in very low quality so that no one has the idea of grabbing it. The full track, when purchased, comes in 160 kbits/second WMA format, which *would* be enough for everything, but alas!, some tracks are distorted! (We do not even have to turn up the volume; the peak of the bassline is cut off.). Bad luck for those who think *this is digital music*.

The pricing is quite interesting: the "average track" goes for (a little over) €1, but some tracks go for €1.4. For what reason, I do not know, I didn't find a correlation. For this amount of money we receive at most two "licences" (this means the tracks are playable on two computers), but at least they are transferable to an unlimited number of portable players. For the number of CD burns, however, there is no general rule, it is determined on a track-by-track basis. I couldn't find a lower number than two or a larger number than ten. I didn't find differences within an album, but there could be, since the terms and conditions say that the user is responsible for checking this *for each track*. Very consumer-friendly rules, I must say.

### Mobile music

It makes sense to compare the two mobile service providers' music download offerings, because they share the restrictions of the mobile platform, and also because they have similar pricing.

Pannon GSM, which started its service as the first player is a customer of Groove Mobile, an American company which delivers downloadable music to three continents. They licence music from Warner, Universal, Sony, EMI, BMG, V2, and lately also Beggars Group, which is the home of a number of UK independent labels (cf. sources). However, not every label's offerings are valid in every country, so Pannon's subscrib-

ers can only access “tens of thousands” of songs, paying €1.6 for each (cf. sources).

T-Mobile has a very similar system (at least on the phone it looks similar) to the aforementioned, but I could not find information on where they license the music from. However, they offer 300,000 songs, so the point goes to T-Mobile in this respect; but not in pricing, they charge €2.1 for a track.

Both providers use a proprietary DRM solution, for which a freely downloadable program is used that runs only on Symbian operating system-based smart phones. The first such phone appeared around two years ago, and both Nokia and Sony Ericsson are continuing their line with the newest 3G phones. Pannon GSM describes most such phones on the market as supported, while T-Mobile lists only the two newest 3G phones from Nokia as being capable of running the DRM framework. The question is, if the technology used in the new 3G phones is identical to that used in the other Nokia phones, why does the program not support other Nokia models, like their competitor’s?

Pannon GSM writes on its web page that the DRM of the downloaded track is bound to the SIM of the phone, meaning that if we transfer the tracks to another phone *and* replace the original SIM, the songs will play on the new device. T-Mobile only says that the songs will only play on one’s “own mobile phone”, so the tracks can be backed up to an external medium, but will only play on the “own device”. This means that neither of the two supports transferring and playing the songs on a PC. The question arising here is that if all of the supported phones are compatible with the OMA DRM standard, why not use OMA DRM? If both companies used the OMA technology, they could be compatible with more devices (meaning a bigger market) and perhaps also with each other (meaning bigger competition). But perhaps this is not their aim...

Both companies provide a 30 seconds pre-listening of the tracks. The tracks are downloaded in AAC format, and – according to the information available on the internet – normally use 700-900 Kbytes from the memory of the phone. After a little bit of counting

(1.15 Mbytes for 4m48s:  $1150 \cdot 8 / 288$ ) this means a bitrate of 32 kbits/second, which results in low sound quality, even in the efficient AAC format – by the way this is the same as the low-quality prelistening bitrate of the aforementioned Internet-based music store. At least the double would be needed to produce enjoyable music pieces, and four times this for CD quality (iTunes also uses 128 kbits/second encoding).

We should also mention download costs. Now that the high-bandwidth 3G networks are in their experimental or early commercial state, network traffic over them is for free, but only for a limited time. However, even in the bigger cities of Hungary we are still very far from decent UMTS coverage. So, if one wants to use the mentioned download services, in most cases one will have to go back to the traditional GPRS/EDGE networks, where browsing and downloading costs can easily double the price of one track, since in Hungary data traffic is not included in the price of the songs.

### Ringtones

We can also consider mobile phone ringtones as a kind of digital music, particularly for the latest mobile phones, where pieces of music sound in excellent quality when the phone rings. There are approximately 50 such licences in Hungary this means that around 50 providers may sell musical ringtones. So we can assume that ringtones make up the majority of online music sales. Though I personally do not consider these online music downloads, since they are usually not whole tracks, I think it is worth seeing how much they cost.

Normal polyphonic MIDI ringtones usually cost around € 1.2, better quality, so-called “True Tone” ringing effects (i.e. non musical, e.g. animal voices and other effects) cost around € 1.6, and interestingly “True Tone” music ringtones (copyrighted material) cost € 1.9. So here we can see that there is an extra charge built into music over effects. There is also the possibility of downloading true music tracks as ringtones. Here the charge from each mobile provider is € 2.4, even more than for a whole song!

## Conclusion

Summing up the experiences gained: on the mobile market the consumer has to pay up to €4 for a track that he can only listen to on one phone and nowhere else. And in many cases the sound quality of the purchased music is worse than that of a ringtone. But those people, who are willing to pay € 2.4 for a ringtone, may find this offer tempting...

On the Internet music market, today's single Hungarian player without any competition sells songs for more than in almost any richer European country and with stricter conditions. The quality of the music is not flawless either, and the information service provided also leaves things to be desired.

We expect that online music is just taking off in Hungary and in the next half year many

new providers will enter the market. I am curious.

## Bottom line

My experiences of the Hungarian online music market are distressful, and the sad thing is that the same probably holds for the rest of Eastern-Europe, meaning at least 75 million people. Prices are sky high, and quality of service does not even come close to the desired level. With affordable broadband internet access everywhere and no real alternative, file-sharing and illegal music and video downloading rule the scene. DRM-based services will have to become a lot better to beat the free offerings of the (dark)net.

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**About the author:** Kristóf Kerényi is a researcher at Budapest University of Technology and Economics in the SEARCH Laboratory. His interests include mobile and wireless IT security, as well as technological aspects of DRM. He received a MSc in computer science from BUTE. Contact: [kerenyi@mit.bme.hu](mailto:kerenyi@mit.bme.hu)

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## Popkomm 2005: DRM not in the focus

By: Nicole Dufft, Berlecon Research, Berlin, Germany

**Abstract:** The music fair Popkomm took place between September 14 –16, 2005 in Berlin. DRM played a less prominent role as a stand-alone topic than last year. One important focus this year was on new digital business models, such as mobile music, podcasting and other new radio formats, or subscriptions. This article gives a short impression of the discussions on this year's music fair.

**Keywords:** conference report – business models, music industry, music markets, podcasting

### Introduction

For 17 years now the Popkomm has been one of the most important fairs for the music industry worldwide. This year, 796 exhibitors – 130 more than last year – from 49 countries attended the event in Berlin. The future for the music industry today looks a bit brighter than in previous years. According to *Gerd Gebhard*, chair of the German IFPI (Federation of the Phonographic Industry), particularly online music services show a promising development and the music industry is embracing the digital age by testing new music formats and pricing models. Naturally, Gebhard could not refrain from touching the issue of music piracy as well.

### No dedicated DRM sessions at this year's Popkomm conference

Each year, the Popkomm music fair is accompanied by a rich conference program, where new developments in the music industry are discussed with top-level experts. As opposed to the Popkomm conference in 2004 (cf. Dufft 2004), no dedicated DRM session was on the agenda of the conference this year. Naturally, DRM is an important foundation for many of the discussed new business models. It therefore played a role in the discussions, but less prominent than in the previous year.

### Big hope put on mobile music

One session of the conference was dedicated to mobile music. Music labels, mobile operators and device manufacturers all expect – or rather: hope – that music on mobile phones will become a soaring new source of revenue. However, incompatible file formats and DRM technologies as well as problems with

providing downloads that can be used in parallel on PC and mobile phones constitute important limitations for the future success of full-track music downloads. Patent problems were also mentioned, especially concerning the OMA DRM standard (cf. on this topic Bohn 2005).

### Subscriptions versus a-la-carte downloads

The future success of a la carte downloads and subscription services was discussed in a dedicated digital music session. It was conceived that subscription services should gain considerable attention also in Europe, where adoption is yet slow compared to the US. Adequate pricing models for music subscription services were discussed in detail. Low-price offerings, in particular Yahoo! Music Unlimited, which offers a subscription for only \$ 5 per month to US clients, might force the involved players to accept shrinking margins. *Dave Goldberg*, Vice President & General Manager of Yahoo! Music provided for an interesting insight of Yahoo's strategic goals: while in retail markets prices usually start high and decrease over time, the opposite could be true for services markets, e.g. subscription services. Spelled out this means that Yahoo will try to lock in as many customers as possible and then gradually increase prices for the service over time.

### Who kills the radio star?

A session called "New radio" focussed on new radio-like services, such as Web radio, mobile streaming services and podcasting. A first panel discussed the new business models. It was stressed that a whole range of new revenue sources and a range of different

players now dominate the music business, e.g. ISPs and operators selling broadband and mobile network traffic, or technology companies selling devices and software. However, for a number of very popular music services such as Web radio or podcasting, profitable business models have not yet been developed. A second panel focussed on what the new digital services mean for traditional radio broadcasters. Music consumption has over the past years increasingly become an active process, where consumers choose what they want to hear on the device, at the place and at the time they like. Traditional radio broadcasters have to respond to this development, e.g. by offering their own podcasts or web streams and by offering high-quality programs, not only mainstream music that sounds all alike.

### Is podcasting sexy?

On the last day of Popkomm a session named "Podcasting is sexy" explicitly dealt with this new form of radio-on-demand. Podcasting was a "hot" topic discussed in many other sessions as well. Open copyright and licens-

ing issues for musical content, however, currently limit the broader adoption of podcasting (cf. on this topic Dufft 2005). Nevertheless, some market participants like the BBC see high potential in podcasts, and major labels slowly start to take the new medium seriously. Warner Music, for example, produces its own podcasts and provides samples of its music to be used in podcasts.

### Bottom line

DRM by itself was less intensively discussed on this year's Popkomm than last year. However, my impression was that the music industry is becoming more creative and innovative to develop and test new business models that serve the specific demands of consumers. In this environment DRM is "simply" a technical problem that needs to be solved properly. It is not anymore regarded as a key element that will shape the future of digital business models. Rather, the diversity of consumer tastes, not only concerning different music genres but also concerning different consumption behaviours is coming more into focus – finally.

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**About the author:** Nicole Dufft is a senior analyst at Berlecon Research. She has been analysing a variety of ICT topics ranging from mobile computing and application service providing to DRM. Currently, she works in the field "digital consumer". She is a member of the INDICARE project team. Contact: [nd@berlecon.de](mailto:nd@berlecon.de)

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## Improving cross border licensing practices for online music stores. The European Commission's view

By: Margreet Groenenboom, IViR, Amsterdam, The Netherlands,

**Abstract:** On 7 July 2005, the European Commission released the staff working document "Study on a community initiative on the cross border collective management of copyright" (European Commission 2005a). This article reviews the aforementioned Study, focusing on the current difficulties in the licensing of online music, solutions that were brought forward by the industry (for instance the Santiago Agreement), the policy options proposed by the European Commission and the influence of DRM on collecting societies.

**Keywords:** Review – collecting societies, competition, DRMS, licensing, Santiago Agreement – European Union

### Introduction

The aim of the "Study on a community initiative on the cross border collective management of copyright" (Commission staff 2005, "the Study") is first to identify the problems related to the current structures for cross border management of copyright for online content services, and secondly, to propose possible solutions to improve the current situation. At the time of writing, 80 organizations and other stakeholders had already submitted their reactions on the Study to the European Commission (Contributions 2005). In the first half of 2006, the European Commission will conduct an impact assessment on recasting copyright. The results of this assessment are expected in the second half of 2006 and there could be a first policy debate on the cross border management of copyright in the fall of 2006. This article will only address the Study, not the reactions to the Study. The 60-page Study consists of 7 chapters:

1. Problem definition;
2. Objectives;
3. Policy options;
4. Analysis of impacts;
5. Monitoring and evaluation;
6. Results of stakeholder consultation and
7. Commission proposal and justification.

### Explaining the problem

Before addressing the content of the Study, a brief introduction to the problem will be given. Collecting societies in the EU Member States are based on a state endorsed mo-

nopoly. A collecting society in a certain Member State enforces exploitation rights of rightholders (copyright owners) based in that same Member State by granting licenses to commercial users. The collecting societies can endorse these rights without the explicit permission of rightholders. In addition, they audit and monitor rights by ensuring payment and terms of licensing. After the collection of the royalties, the collecting societies distribute the royalties to rightholders. The distribution of royalties is especially complicated when it concerns cross border management. When someone, for instance an online music store, wants to offer music, he would have to conclude agreements with the individual collecting societies in all the countries where it intends to offer music.

The above mentioned practice of concluding a license in each and every EU Member State with the local collecting society for 1 song, leads according to the Study to difficulties for online music services to start their business. The Study defines online music services as any music service provided on the Internet or provided to mobile phones. Examples are services such as simulcasting, webcasting, streaming, downloading, and online "on-demand service". The Study uses the estimate by the European Digital Media Association – an organisation representing online music providers – in determining the direct costs of licensing a song. The negotiation of one single license (mechanical and public performance rights) would cost 19,000 Euro. When clearance for a song is required in all 25 EU Member States, this would

amount to 475,000 Euro. On the basis of a profit of 0.10 Euro per download, 4.75 million downloads are required to cover the costs of the license.

Also, in comparison to the situation in the United States, the licensing of online music in the EU is far behind, at least according to the Study. Where in the United States 207 Million Euros were spent on music downloads, only 27.2 Million Euros had been spent in Europe.

The problem can be illustrated by using iTunes as an example. Imagine a song being offered by iTunes-UK. A consumer, living in the Netherlands, wants to purchase the same song from iTunes- the Netherlands. The song is not available and he wants to purchase it from iTunes- UK. This is not possible though! In this case, there obviously is no license to sell the song in the Netherlands. For each country where Apple aims to sell the song, a separate license is required.

### **Some findings of the European Commission**

The Study identifies in Chapter 1 three categories of restrictions which hinder the licensing of online music. First, restrictions exist with regard to cross border licensing. At the moment, there is no universally acceptable multi-territorial agreement for the online rights of all categories of rightholders. Secondly, restrictions exist with regard to the cross border distribution of royalties. For example, collecting societies do not provide for non-discriminatory distribution for rightholders from all EU Member States. Thirdly, a restriction is formed by the Santiago and the BIEM/Barcelona Agreements (Santiago Agreement 2001 and BIEM / Barcelona Agreements 2002) which oblige content providers to go to the collecting society in their own Member State (this is called the economic residency clause). Because the Santiago Agreement forms an important part of the Study, we will have a closer look at this Agreement.

#### *Santiago Agreement*

The Santiago Agreement authorises collecting societies to grant non-exclusive licenses for the online public performance of musical

works (songs) on a worldwide (multi-territorial) basis to content providers. On 29 April 2004 the European Commission notified the sixteen European collecting societies that entered this agreement, that the *Most Favoured Nation clause* and the “economic residency clause” in the Santiago Agreement may violate European Union Competition law (European Commission 2004). The “economic residency clause” enforces section II of the Santiago Agreement in which is determined that the collecting society with authority to grant multi-territorial licenses, is the society of the country where the content provider – for example an online music store – has its actual and economic location. As a result, each national collecting society is given absolute exclusivity for its territory with regard to the possibility of granting multi-territorial licenses for online music rights. Although the Santiago Agreement aims to promote the use of “one-stop shop” copyright licenses, the result is thus a lock up of national territories which might constitute a breach of Article 81 EC Treaty. Article 81 EC Treaty prohibits all agreements between undertakings, decisions by associations of concerned undertakings and concerted practices which may affect trade between Member States and which have as their object or the effect the prevention, restriction or distortion of competition within the common market. In this Study, the European Commission tries to propose a solution, which would not violate Article 81 EC Treaty, for the granting of a world-wide license for a song to online music stores by one central collecting society.

#### *Digital Rights Management*

Separately, attention is paid by the Study to Digital Rights Management (DRM) (see for example chapter 1.2.2). Digital technologies in rights management have empowered rightholders to control the licensing by the facilitating of and tracking the use of works. Examples of facilities enabled by the use of a DRM system are individual electronic payment and remote monitoring. Because DRM enables rightholders to license their rights themselves they do not necessarily need collecting societies to take care of this issue. Therefore, collecting societies should assess



the services they currently offer rightholders and decide which services are of surplus value to rightholders. Using digital technologies might also lead to a reduction in management costs for collecting societies and will enable them to be more accurate in royalty distribution. In the INDICARE-interview with A. Beemsterboer of CEDAR, Beemsterboer elaborated on the possibility of collecting societies using DRM. As an example of a new service to rightholders, Beemsterboer envisaged the collecting society as a broker in licenses (Helberger 2004). By using DRMs, the collecting societies could be adapted to the digital environment. Lastly, digital technologies could allow collecting societies to outsource some of their management services when this is more efficient than providing these services themselves.

#### *General policy objectives*

The “opening up of Europe’s large and mainly underexploited potential of growth in legitimate online services” forms the general policy objective identified in Chapter 2. More specifically, the accessibility of creative output especially to online content providers should be improved and there should be a full participation of rightholders in the revenue stream generated by more efficient cross border exploitation of copyright. In order to achieve these objectives, the Study proposes the following operational objectives:

- ▶ A licensing policy that is in line with the demand of online content providers;
- ▶ Transparency of collecting societies;
- ▶ Improved copyright clearance of copyrighted works across the EU;
- ▶ A significant increase in the availability of multi-territorial licenses for online content providers;
- ▶ Freedom for right holders to choose their collecting societies and to have the ability to switch between collecting societies;
- ▶ Enhancement of transparency and accountability of collecting societies and equitable distribution and enforcement of rights;

- ▶ Distribution of royalties collected on behalf of the rightholders in territories other than their home territory to rightholders directly and without discrimination on the grounds of residence, nationality or category of membership.

In addition to these operational objectives, the Study proposes in Chapter 5 indicators to monitor and evaluate the developments.

#### *Policy options, analysis of impacts, the Commission's proposal and its justification*

The European Commission considers three options to improve the current situation in Chapter 3:

- ▶ Option 1: Do nothing;
- ▶ Option 2: Suggest ways in which cross-border co-operation between national collecting societies in the 25 Member States can be improved;
- ▶ Option 3: Give rightholders the choice to authorise one single collecting society to license and monitor all the different uses made of their works across the entire EU.

The European Commission analyses the three policy options for different aspects (for instance legal certainty, transparency, innovation and growth, competition and the impact on specific groups) in Chapter 4. Although option 2 would improve the way reciprocal agreements function, it will not remove limitations contained in these agreements and there will be no scope for collecting societies to improve their services or differentiate their repertoire. Following option 1 and 2 would – according to the Study – have the consequence that rightholders still need to go to the collecting society of their own EU Member State and do not have any choice at all. Option 3 though, would give rightholders the opportunity to authorise a collecting society of their choice to manage their works across the entire EU. The Study expects that competition between collecting societies will create a competitive environment for cross border management of copyright in which collecting societies will provide better services to rightholders, for instance the improvement of cross border royalty payments and the specialisation in genre-specific repertoires.

### *Consultation of stakeholders*

In drafting this Study, the European Commission made use of a stakeholder consultation (see Chapter 6). It appears that rightholders and their representatives focus on improving the cross border distribution of royalties. Commercial users focus more on the community wide licensing process. With regard to the last issue, opinions from stakeholders differ. The Groupement Européen des sociétés d'auteurs et compositeurs favours a community wide license given by the collecting society in the territory where the online operator has its economic residence. The Association of European Radios, MTV Networks, European Information & Communications Technology Industry Association and some online content providers favour the freedom for users to choose between collecting societies. The Music Publishers Association is against competition and free choice with respect to a single licensor, as this would permit users to engage in "perpetual negotiations" with several competing collecting societies.

### *Implementation of the policy*

In order to realise the identified general policy objectives, the European Commission suggests (in Chapter 7) a series of core principles that EU Member States should adhere to, e.g.:

- ▶ Rightholders' choice as to the online management society is based on the freedom to provide rights management services directly across borders. The freedom to provide cross-border management services by means of direct membership contracts will eliminate administrative costs inherent in channelling non-domestic rightholders royalties through reciprocal agreements between different societies;
- ▶ The principle that a rightholder's choice of a single EU rights manager should be exercised irrespective of residence or nationality of either the rights-manager or the rightholder;
- ▶ The principle that a collective rights society's repertoire and territorial licensing power would not derive from reciprocal agreements but from rightholders con-

cluding contractual agreements directly with a society of their choice. Rightholders should be able to withdraw certain categories of rights (in particular categories of rights linked to online exploitation) from their national collecting societies and transfer their administration to a single rights manager of their choice. For that to work, these online rights must be withdrawn from the scope of reciprocal agreements as well;

- ▶ The principle that the individual membership contract will allow the rightholder to precisely define the categories of rights administered and the territorial scope of the society's authority. As the licensing authority would derive from the individual membership contract, the collective rights manager of choice would not be limited to managing these rights in his home territory only, but throughout the EU;
- ▶ Individual membership contracts create a fiduciary duty between the collecting society and its members, obliging the former to distribute royalties in an equitable manner. The principle of equitable distribution obliges collecting societies to treat domestic and non-domestic members alike with respect to all elements of the management service provided. The fiduciary duty enshrined in membership contracts is thus a tool to maximise the royalties that accrue to rightholders;
- ▶ Membership cannot be refused to individual categories of rightholders who represent mainly non-domestic interests (e.g., music publishers). In addition, these rightholders should have a voice in how royalties are distributed that is that is commensurate to the economic value of the rights they represent;
- ▶ Non-discrimination as to the service provided and the fiduciary duty of the collective rights manager vis-à-vis its members introduces a culture of transparency and good governance as to how rights are collectively managed across EU borders.

### A bit of discussion

Although the European Commission analyses different aspects of the three policy options, it seems that the European Commission considers the following as most important aspect: the opportunity offered by option 3 for rightholders to authorise a collecting society of their choice to manage their works across the entire EU. When taking into account the objectives identified before, the choice made by the European Commission for option 3 is logical. The results of the stakeholder consultation - concerning the cross border distribution of royalties - do not necessarily point to the adoption of policy option 3 though. Improvements in this field might also be enabled by implementing option 2. With regard to community wide licensing, some stakeholders quoted in the Study seem to favour the freedom to choose between collecting societies. Whether this is indeed true can only be established by assessing the stakeholders' reactions to the Study.

Recently, the collecting societies BUMA (the Netherlands) and SABAM (Belgium) announced that they will not be party "to any agreement on licensing of public performance rights for online use with other copyright management societies containing an economic residency clause, similar to that contained in the Santiago Agreement and identified as restrictive in the Statement of Objectives" (BUMA/SABAM 2005 and European Commission 2005b). This might be

an indicator that some collecting societies do indeed favour the policy option chosen by the European Commission.

### Conclusion

Overall, the Study is well structured and when analysing the policy options it takes into account many different aspects, ranging from legal certainty to the impact on specific groups. The problem definition makes it clear that something needs to be done soon to make the community wide licensing of musical works easier. When analysing the policy options, the European Commission considers DRM to play the largest role in fulfilling policy option 3. More specifically, DRM could improve the services offered by collecting societies. Because DRM enables rightholders to license works directly to commercial users, collecting societies should consider the surplus value of their services to keep rightholders interested in their services. Maybe they should consider offering new services, see for example the "broker in licenses" service suggested by Beemsterboer. Furthermore, the use of DRM by collecting societies could enhance the cost-efficiency within collecting societies.

### Bottom line

The proposed policy options and the analysis of impacts in the Study have certainly triggered stakeholders to react and to continue the debate in this field. I am looking forward to the assessment of the reactions!

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**About the author:** Margreet Groenenboom is project researcher at the Institute for Information Law, University of Amsterdam. She specialises in copyright law, patent law, trademark law and law & information technology. Contact: [groenenboom@ivir.nl](mailto:groenenboom@ivir.nl)

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## Helping libraries manage digital rights Standards for the electronic communication of licensing terms

By: Brian Green, EDItEUR, London, United Kingdom

**Abstract:** As the number of digital resources in library collections grows, libraries are reaching out for solutions to help them comply with the differing license terms applied to resources by their creators and publishers. EDItEUR is developing standards for the expression and communication of licensing terms in XML, building on the work of the Digital Libraries Federation's Electronic Resource Management Initiative (ERMI), the joint EDItEUR / NISO work on ONIX for Serials and the analytical approach of the INDECS project. This article summarises the significant progress made towards a solution based on standard message formats and a structured data dictionary.

**Keywords:** e-journals, libraries, licensing, metadata standards, publishers, rights expression language, rights trading, standards

### Managing electronic resources

The terms “Digital Rights Management” and “Rights Expression Language” are somewhat unhelpful, often interpreted as having more to do with technical protection and limitation of access than the management and expression of rights. This article, however, addresses the very real issues of how digital rights are to be managed and expressed in an environment of trust – the licensing relationship between academic publishers and libraries.

In this business to business relationship technical protection is neither required nor desirable. The relationship is a contractual one, based on licences and publishers are quite content to trust librarians to comply with the terms of those licences. Libraries may decide to incorporate some degree of technical protection within their own library systems in order to prevent unauthorised use of digital materials, but they do not want to have this imposed by the publishers.

However, as the number of digital resources in library collections grows, libraries are reaching out for ways to help them comply with the differing licensing terms applied to resources by their creators and publishers. Paper licences, once negotiated and exchanged, are duly filed and it becomes a major task to answer a simple question such as “*May I make 20 copies of this article for my class?*” The ability to express usage rights and permissions electronically in a simple form, link to them from digital resources and communicate them to users has become an urgent need. Ideally, an XML message expressing the terms of the publisher/library licence should be generated by the publisher’s licensing department and communicated to the library, either directly or through a trusted intermediary, for linking to the relevant resources.

Neither publisher nor library systems have been able to cope with this requirement. One significant obstacle has been the lack of underlying metadata standards necessary for such complex exchanges.

#### **Work on rights metadata standards**

EDItEUR (cf. sources) is the international body for e-commerce standards in the book and serials sector, originally set up by the European Bureau of Library and Documentation Associations, the Federation of European Publishers and the European Booksellers Federation. It is now a truly international not-for-profit organisation with members from all of the above communities in USA, Canada, Europe, Asia and Australia developing standards for EDI, bibliographic information and the communication of serials information.

EDItEUR has been working in the area of rights since 1997, when a joint NISO (National Information Standards Organisation; cf. sources) /EDItEUR working party was established to explore the metadata requirements for rights trading. The working party concluded that the essential elements that had to be identified and described were the resource itself, the user and the required use. Progress has been made in the area of resource identification, with the widespread implementation of DOI (Digital Object Identifier;

cf. sources) and open URL to identify resources and the development of ONIX (Online Information Exchange; cf. EDItEUR 2005a), and in particular ONIX for Serials, to describe them. The identification and description of users raises privacy as well as administrative issues and, in actuality, the major requirement is not individual identification of users but authentication of their status as a bona fide user. Authentication systems such as Shibboleth (cf. sources) now enable authentication of user status.

There remains the description of usage rights. So-called Rights Expression Languages such as XrML (eXtensible rights Markup Language; cf. sources) and ODRL (Open Digital Rights Language; cf. sources), have been developed primarily for the music and video industries as mark-up languages to drive technical rights enforcement technologies in business to consumer situations. They are, at the same time, both more and less than what is required for the communication of licensing terms information. EDItEUR believed that what was required, and lacking in the rights expression languages, was a highly-structured data dictionary that accommodated the full richness of licensing terms and that could be used to generate messages in various different syntaxes. On the other hand, there was no requirement in this community for messages to directly drive technical protection mechanisms.

This work was picked up in a multi-media context by the EU-funded <indecs> (Interoperability of Data in e-Commerce Systems; cf. sources) project that ran from the end of 1998 to early 2000 and included participation from the various media sectors. <indecs> developed an analysis of the requirements for metadata for e-commerce in intellectual property in the network environment which received widespread support. The work of the <indecs> project has been carried forward in the development of the iDD (indecs Data Dictionary) by the International DOI Foundation (cf. sources) and in the development of the ISO MPEG Rights Data Dictionary - ISO/IEC 21000-6 (cf. Barlas 2005).

## The Electronic Resource Management Initiative

Parallel to these developments, the library community was struggling with the wider issues of managing electronic resources and given the inability of integrated library systems to provide comprehensive solutions at the time, individual institutions were developing their own non-interoperable systems. Recognising the shortcomings of such an approach, in mid-2002 the Digital Library Federation launched ERMI (cf. sources), the Electronic Resource Management Initiative to define the functional requirements of an electronic resource management system and begin to develop a common set of specifications which could be followed by the library systems vendors.

ERMI's goals were to:

- ▶ Describe architectures needed to manage large collections of licensed e-resources
- ▶ Establish lists of elements and definitions
- ▶ Write and publish XML Schemas/DTDs (Document Type Definitions)
- ▶ Promote best practices and standards for data interchange

These goals were substantially achieved in their final report (Jewell et al. 2004) published in August 2004. Many of the major library systems suppliers have already started building electronic resource management extensions to their systems based on the ERMI reference model.

A number of very complex issues were recognised and modelled, including the complex ways in which licences relate to electronic resources; the need to interpret the lack of a specific statement in licenses (where does such silence imply a permission and where a prohibition); the difficulty of managing the realities of complex user groups and institutional locations.

### ONIX for licensing terms

Meanwhile, EDItEUR, had been working in a Joint Working Party with NISO to develop "ONIX for Serials" a family of XML standards to support communication between publishers, agents and librarians primarily as it relates to the management of ejournals.

A requirement for the unambiguous electronic communication of licence terms within this supply chain was identified and EDItEUR commissioned a paper from the Rightscom consultancy (cf. sources) (An assessment of ERMI in the context of ONIX and requirements for recording and communicating licence terms for electronic resources (Bide and Rust 2004), to assess the extent to which the ERMI work in this area might provide a basis for the development of standards for the transmission of licensing terms throughout the supply chain for digital resources.

The assessment paper concluded that the ERMI work was a good starting point for such work but would require further development in order to meet EDItEUR's requirements that a licensing terms message should:

- ▶ Take into account the requirements of all stakeholders in the supply chain: libraries, publishers and other rights holders, intermediaries, library users
- ▶ Provide for the full complexity of rights expression:
- ▶ Be designed to support interoperability
- ▶ Be fully extensible in future, to support new business models, all types of use and all media types

The paper recommended the development of a generic ontological structure for rights based on a "contextual", event-based architecture and a well-structured rights data dictionary. This proposal was presented at a seminar on the subject jointly hosted by EDItEUR and NISO in London in December 2004. The feeling of that seminar was that a proof of concept was required to better illustrate the potential of "ONIX for Licensing Terms".

Following the seminar, with funding from the Publishers Licensing Society (PLS; cf. sources) and the JISC (The Joint Information Systems Committee; cf. sources), Rightscom were commissioned to undertake this "proof of concept" project, working with the EDItEUR ONIX technical team (David Martin and Francis Cave) to explore the possibility of developing an "ONIX for Licences" mes-

sage that could be used by publishers and online hosts to communicate licence terms to libraries and subscription agents (EDItEUR 2005b).

The aim of the project was to produce a prototype XML message for communicating in a computable form the terms of a Licence agreement for the use, by libraries, of a publisher's digital works. The main use case was the licensing of electronic journals, but the structure of the message needed to be flexible enough to be extensible to any other type of digital media and license in future by adding to its semantics but not significantly changing its structure. The message therefore needed to be generic in structure but successfully demonstrate an initial, specialized application.

The prototype message was produced as an XML schema and succeeded in demonstrating that each element of the example licence clauses could be fully modelled. The modelling also highlighted the range of possible variations within even apparently simple licensing clauses, and the limitations of the original ERMI approach that defines only a limited "typical" set of usages with no mechanism for variation. One example of this is the use of the term ILL (Interlibrary Loan), frequently used in library licences.

ILL is not a single permission – it is a complex bundle of permissions, prohibitions and conditions with many variables. These can be expressed in a very generic form – e.g. permits "ILL"; or in a very granular and complex form, e.g.

*permits a librarian at institution "A" to make a copy of a defined part of resource "X" in physical (but not digital) form and sending that copy of part of resource "X" to a librarian at another institution "B" – subject to the condition that institution "B" is in the same country as institution "A" – and then the librarian at institution "B" may pass that copy of part of resource "X" to a user – subject to the condition that the user is an employee of institution "B" and is using the copy for academic non-commercial research – and all subject to a condition that the*

*librarian at institution B maintains a record that the copy was made.*

The ONIX for Licensing Terms message needs to be able to handle either the generalised term or the complex form.

Further development work has been carried out and a draft format of the ONIX for Licensing Terms message with examples is now available on the EDItEUR website <http://www.editeur.org>. ONIX for Licensing Terms requires that a formal definition is provided for:

- ▶ (a) Each "party" that is mentioned anywhere in the license.
- ▶ (b) Each "resource" that is mentioned anywhere in the license (including resources that are derived by actions taken under the license, eg extracts made from the original licensed materials).
- ▶ (c) Each "time" or "place" that is mentioned anywhere in the license.
- ▶ (d) Each external "document" (paper or electronic) that is referenced anywhere in the license.
- ▶ (e) Each "usage" that is referenced anywhere in the license.

In each definition, a "label" is assigned that must be unique within the License Terms document, and this label is used elsewhere in the XML to refer to the entity that has been defined.

The definitions are crucial to the ONIX Licensing Terms structure, and are likely to be the largest section of a License Terms XML document.

The key elements in the ONIX Publisher Licensing Terms format carry controlled values which will be managed through a structured dictionary – the ONIX Licensing Terms Dictionary.

### Next steps

However, in addition to the technical work remaining, there are still several practical and political issues to be dealt with:

- ▶ Publishers, especially small and medium sized ones, will need tools and services to

help them produce the XML representations of their licences

- ▶ Integrated library systems will need to implement the standards in the electronic resource management systems that they are developing.
- ▶ Some librarians are concerned that the development of licensing messages represents “the thin end of the wedge” in terms of introducing DRM enforcement technology into the relationship among publishers, libraries and library users. (In fact, the fuller compliance to licensing terms that this work will facilitate makes the implementation of technical protection measures even less likely or attractive to publishers).
- ▶ There are concerns that the precision required to automate the exchange of li-

cences could remove deliberate ambiguity in a licence that is sometimes key to the successful conclusion of negotiations.

- ▶ There are issues about whether the paper or the electronic version will be the canonical licence (and where liability lies if a system misinterprets a licence term).

A new Joint Working Party of ERMI, EDItEUR, NISO and PLS is now being set up to carry the work forward, further develop, pilot and promote the messages. The organisations forming the new joint working party and representing libraries, publishers and standards bodies are optimistic that by pooling resources and working collaboratively, these issues can be sensibly discussed and dealt with. Any readers interested in learning more or becoming involved in piloting the messages are invited to contact the author.

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**About the author:** Brian Green is Manager of Book Industry Communications, the UK book and serial industry standards body set up in 1991 by The Publishers Association, The Booksellers Association, The Library Association (now CILIP) and The British Library. He also manages EDItEUR, the international umbrella body for book and serials standards. Brian is active on many international standards committees and chairs ISO TC46 SC9, the ISO subcommittee concerned with identifiers and metadata. Brian can be contacted at [brian@bic.org.uk](mailto:brian@bic.org.uk)

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## Business models and rights management for eLearning in Europe. Findings of the OrmeE project

By: Paola Mazzucchi, AIE – Associazione Italiana Editor, Milan, Italy

**Abstract:** The purpose of this article is to highlight the key findings of the OrmeE Project (Observatory on Rights Management for eLearning in Europe). First the general context is presented, then the relevant legal framework is introduced, and thirdly 9 different business models for educational e-content markets are sketched.

**Keywords:** EU-project - business models, copyright law, e-learning markets, EUCD, publishers, education – European Union

### Introduction

Education in the digital age is a much more complex issue than one could imagine. It is easy to pronounce words as e-schools, e-classes and e-learning. They sound fashionable and trendy but what do they actually mean? Education in the digital age means that teachers can use new technologies to teach and learners can use new technologies to learn. But the real question is: what do they teach and learn? Is the educational environment ready to shift from old and good paper schoolbooks to digital content? How does the value chain of educational content need to be reshaped in order to create a sustainable market for all key actors: publishers, teachers and learners? And which role do public institutions on both the national and European level play?

The purpose of this article is to highlight the key findings of the OrmeE Project (Observatory on Rights Management for eLearning in Europe; cf. sources) with respect to the management of copyright related to educational content in the digital environment.

Talking about copyright for digital educational content requires, however, a preliminary description of its context. The basic question therefore is: *Why is digital rights management a relevant topic for the educational environment?* One question, three answers:

*First*, in the last 5-10 years all European school systems have been deeply affected by the need to introduce information and communication technologies (ICT) in schools. This process has also been driven by EU pol-

icy objectives according to the Lisbon strategy: to achieve a harmonized and standard level of “digitalisation” in all economic and social areas (i.e. e-government, e-health, e-learning, e-business, e-inclusion) and to diminish the digital divide between the Us and the European Union.

*Second*, EU legislation on copyright – in particular on digital copyright – to be implemented at the national level aims to establish a common framework for all Member States in order to further the uptake of the European and global digital content markets and at to maintain at the same time some exceptions for educational purposes.

*Third*, even without taking into account the previous considerations, a market for digital educational content is actually emerging at it is growing at European level. Its development will probably follow the path drawn by the US.

### The legal framework of copyright in the digital era

The penetration of digital technologies (in households, public institutions, offices and companies) means a rapidly growing number of people who can have access to digital information and knowledge. This enables the growth of a market for digital content, both for existing content and new added value services. This evolution process has already led to new problems related to copyright protection. Today digital technology allows perfect and unlimited copying and distribution of content in a quite inexpensive way, and this is true for copyrighted digital content too. As a consequence, the European legisla-

tor introduced new regulations concerning protection and enforcement of intellectual property rights with a major role for DRM systems, in particular: Directive 2001/29 (cf. sources) and 2004/48/EC (Enforcement of Intellectual Property Rights; cf. sources).

Directive 2001/29 establishes a framework which balances incentives to create and distribute content –serving the interest of the public (and individual users) – with mechanisms ensuring appropriate revenue through the exercise of intellectual property rights.

*“Copyright and related rights play an important role in this context as they protect and stimulate the development and marketing of new products and services and the creation and exploitation of their creative content”.* (Directive 2001/29, Art. 2)

The need for a common system (and a common basis) to regulate the market, to protect copyright and to grant rightholders a fair compensation, is much more urgent, because the existence of such a market for digital content depends on the existence of a “standard” regulation. Only if these conditions will be met, it will be possible to develop economically sustainable business models for the “commercialisation” of digital content. From the OrmeE perspective, this issue is even more significant as the Directive itself allows for exceptions concerning the educational environment.

Despite the stated goal of harmonising national copyright legislations, the implementation of the 2001 Directive has not yet achieved much in making the exceptions in the field of educational uses converge. Member States have made use of the possibility provided for by the Directive to implement several exceptions differently. Some have implemented the text of the Directive literally, others simply kept their national provisions considering them in line with the Directive, other Member states have not yet implemented the Directive, and others deliberately used the freedom of decision left to them by the Directive.

As a consequence what is to be understood as “use for the purpose of illustration for teaching or scientific research” will continue to

differ from country to country in different respects. In particular we will have to deal with national copyright legislations that:

- ▶ don’t include an exception in relation to educational and scientific use,
- ▶ do include such an exception in the broadest meaning possible (i.e. in conformity with article 5.3.a Copyright Directive), or
- ▶ do include such an exception but with a narrower scope of application.

Differences can be identified with respect to the following questions:

- ▶ Which acts may be performed (reproduction and/or communication to the public)?
- ▶ What may be used (all works or only certain literary works)? How much may be copied (only excerpts of materials or the entirety)?
- ▶ What is meant by the “for the sole purpose of illustration for teaching or scientific research”? Where is the limit? Has a remuneration to be paid to compensate for the free use?

As long as national laws differ – and it is extremely difficult to foresee whether this will ever change especially now, that the Union counts 25 Member States -, specific acts related to education and teaching may be allowed by the law in one country but forbidden in another country. It is therefore crucial to find and support *best practices* that demonstrate the actual possibility to combine copyright protection and effective access to content by educational organisations and individual learners.

### **DRM and education**

Over the past few years, the world of textbook and educational material publishing has been marked by the advent of digital technologies. The ongoing process of innovation and media integration has led to a complete change in the culture industry.

As a result, a new digital educational content market is emerging with a new commercial approach (as has already happened in other areas of publishing, such as legal databases

and university publishing): from the distribution and sale of tangible products to the distribution and licensing of intangible products, and from products to the services.

In this new context, the textbook publishers, who once based their activities on the production of textbooks and by this maintained their undisputed leadership in the educational content market, must now seriously reconsider their role. They have to find a way to deal with their new competitors, which include companies specialised in e-Learning or technology companies. These have been uninterested so far in the production of educational material, but now – based on their skills and competencies – they consider the world of educational publishing as a lucrative new business..

Copyright management becomes essential in this scenario – in technical and economic terms as well - of an educational content market that can only be conceived in a transnational form, given the enormous potential offered by digital technologies, and in particular, by the primary vehicle for digital content: the Internet. In light of these factors, DRM becomes a topic of discussion – and an urgent need - for the entire educational sector.

### **DRM and the educational publishing industry**

In fact, it has already been mentioned that the application of DRM solutions is relevant to the creation of a single market for digital educational material. In this market the players have to make strategic choices as regards the licensing models to be adopted. This requires previous assessment of the sustainability and consistency of available options in the context of national and European regulations. Viable business models have to meet both, the needs of the educational world and the need of economical sustainability for the actors involved, whether they be content providers, aggregators, or distributing intermediaries.

As far as business models are concerned, it is hard to define one best solution, as the players involved and their relationships vary from case to case depending on the target markets and their specific products or services. It is

also worth mention that the adoption of complex DRM systems by educational publishing houses is far from being fully developed. On the contrary: they tend to use hybrid solutions, managing certain aspects of the described digital content value chain without setting up an integrated system.

In the following we will examine different business models in order to highlight underlying trends and perspectives.

#### *Model 1: Textbook publisher delivers his own content through his own web site or dedicated portal*

This is one of the easiest business models to describe, as there are few players involved: the publisher as rightsholder and the end user. From the DRM point of view this means that the publisher end-user relation is regulated by the license agreements between the two parties. The choice to exploit in-house resources and know-how and to deliver this digital educational content via the publisher's web site or portal is very common among traditional textbook publishers.

In this case all decisions concerning the adopted business model depend on just one single player: the publisher. Once this business model is successful, it is likely that the same content will be delivered according to further business models, e.g. contributing to a delivery system launched by a public aggregator (e.g. Ministry of Education).

#### *Model 2: Textbook publisher delivers his own content through an e-learning platform developed in house*

Maintaining a learning platform implies that the digital content delivered (learning objects) should comply with the most common international standards. In general platforms are standardized (mostly Scorm compliant; cf. sources). It would not be wise to develop an in-house learning platform with proprietary formats because the publishers would not be able to deliver the same content in other ways, e.g. by means of an aggregator.

Like in the model described before, the educational publisher is the main player. It goes without saying that an educational publisher must also have strong ICT know-how in addition to editorial and content production

skills. This is usually the case when an e-learning provider is a spin-off of an educational publisher.

*Model 3: Private aggregator gathers and delivers third party content*

Private aggregators operating in the digital educational environment collect resources not only from educational publishers but usually also from other content providers such as newspapers, TV broadcasters or e-learning content developers – thus granting the user access to a very complex and articulated product.

Educational publishers should be the main content providers because they have the necessary skills, experience and knowledge for the production of educational content. Reliance on an aggregator could also be a good opportunity for small and medium sized publishing houses that cannot afford to enter the digital market by developing their own in-house delivery system.

*Model 4: Public aggregator gathers and delivers third party contents*

Aggregators of educational content are often private companies supported by a public institution (such as the National Ministry of Education). This institution is usually financing and launching a project for schools granting access to digital educational resources. Often they also finance the purchase of the content delivered on-line.

Educational publishers should play a prominent role in content provision, even though it sometimes seems that public aggregators tend to develop their own educational content (e.g. commissioning resources to pools of experts), thus keeping educational publishers in a marginal position.

It should also be understood to what extent participation in a public aggregator service is linked to some kind of quality certification of the digital material and who is in charge of approving or rejecting the content. This type of selection is usually closely linked to the system of selection and approval of textbooks in each country's education system. We might therefore imagine a "quality assessment" for educational digital content that regards only the structure of the content (e.g.

compliance with international standards, metadata, level of interactivity required) and not the control of the content itself.

*Model 5: Gateway*

A gateway could be defined as a bibliographic database for digital (but also print) content. This could be a metadata repository of content. Usually gateways of educational resources are "sponsored" by public institutions, mostly in those countries where schools receive funding to purchase electronic resources.

Relying on a gateway for an educational publisher means having a wider visibility and reaching a broader audience. This model presumes of course that the educational publisher has defined his own business model and set up his own delivery system.

*Model 6: Textbook publisher provides schools with a bundle of content*

This rather uncommon business model implies that a single content provider, such as an educational publisher has at his disposal highly developed interactive content, infrastructures and ICT skills to offer an all inclusive solution to schools. Obviously, the business model can be sustainable only for large size educational publishers, usually as part of a corporate group with assets in other content industries.

*Model 7: Content aggregator provides schools with a bundle of content*

In general, this solution closely resembles an all-inclusive offer to schools where content produced by different content providers has been structured and "packaged" in order to create consistent lessons. This means that licensing to the end user is totally up to the aggregator which actually sells a product, while educational publishers have to manage economic contracts with the aggregator itself.

*Model 8: E-learning environment offers services and gathers educational content*

It is rather difficult to classify this kind of business model because there are many different stakeholders along the value chain. Content could be developed and implemented either directly by users or user communities, or by commercial content providers (educational publishers or e-learning content

providers), or by pools of experts involved in the project.

This is a very interesting business model as schools, teachers and students are directly involved in the process of content creation and knowledge growth. Therefore they feel more engaged. It is however still not clear how the relationship (even economic) between the parties shall be regulated.

*Model 9: E-learning content e-platform provider develops a courseware solution*

If, as described in the previous business models, educational publishers tend to play a significant role in the content creation process, this last solution is totally up to players traditionally outside the educational/ publishing market. Here the main player is a technology provider specializing in e-learning, developing the technical platform as well as the content (learning object).

Which role might educational publishers play in here? Apart from being targeted clients themselves, they might be able to act as partners for the development of reliable contents.

### Bottom line

OrmeE – (Observatory on Rights Management for eLearning in Europe) is an innovative project financed by the European Commission in the framework of the eLearning programme. The project partners are: AIE (Italian Publishers Association), FEP (Federation of European Publishers, TUB (Technische Universität Berlin) and Bologna Fiere (Organizer of the Bologna Children's Bookfair). In other words, OrmeE is strongly driven by the publishing industry perspective, aiming at defining the role educational publishers could (or should) play in the competitive arena of the growing market of digital content.

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**About the author:** Paola Mazzucchi, AIE – Associazione Italiana Editor, is member of the OrmeE team and will take all your questions related to this article, and will, if necessary, forward them to the experts involved in the project. Contact details: [info@ormee.net](mailto:info@ormee.net)

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## Digital rights in the information society – opportunities and challenges regarding citizens' access to information

By: Jacob Skjødt Nielsen, the Danish Board of Technology, Copenhagen, Denmark

**Abstract:** The Danish Board of Technology is issuing a report on the consequences and implications of digitalisation and DRM. The report gives recommendations regarding the use of DRM within the public sphere. Aiming to balance between consumer interests and content owners' legitimate rights, a working group of stakeholders has been set up trying to identify and agree on challenges and opportunities for public information providers. Differences in the assessment of DRM technologies and lack of practical experience, however, proved an almost insurmountable obstacle.

**Keywords:** Policy analysis – copyright exemptions, copyright law, consumer expectations, consumer rights, EUCD, interoperability, libraries, public policy, stakeholders - Denmark

### Aiming for balance

A working group set up by The Danish Board of Technology is about to issue a report on the project "Digital rights in the information society" (Teknologirådet 2005). Over the past year the board has facilitated a stakeholder discussion of the consequences and implications of the digitalisation of information and DRM. The aim is to provide politicians and decision makers with an overview of the discussion, and to provide recommendations regarding the use of DRM within the public sphere. The main objective and at the same time the key challenge was to strike a balance between consumer interests and content creators' legitimate rights. It would be a Pyrrhic victory indeed should the digital technologies, promising new possibilities for communication and distribution of information, instead lead to restrictions, limitations and boundaries for citizens' access to digitalized information. It is therefore evident that a balance must be restored between consumer interests and content creators' legitimate rights.

### DRM – the problem solved?

The report describes how the term Digital Rights Management (DRM) has been used to describe dissimilar technologies (Dykstra 2003). Since DRM, as of today, is not considered a clearly defined concept, stakeholders have produced equally diverse assessments. This in turn has led to much discussion in the group about the usefulness of

such a concept. Moreover, practical experiences are limited in relation to the implications as well as the benefits of this technology (or technologies). Some stakeholders expressed great expectations regarding the future potential of DRM technology, while others expressed equally strong technical reservations and privacy concerns. Evidently, insufficient experience with the practical application of DRM systems and uncertainty about their technological potential has made any assessment dubious.

The most important arguments *for* DRM are that DRM can increase protection against piracy and illegal distribution of content and make technical enforcement of rights possible. Furthermore, using DRM new business models and distribution forms can be established for instance through direct distribution to the end consumer.

The most important arguments *against* DRM are that DRM can technically hinder the moving of information between platforms and applications - which in turn will undermine interoperability and the opportunity for the user to choose technology. Furthermore, legal protection of DRM can reduce innovation and research in digital technologies and thus the competition on this market. Finally legal protection of DRM can erode exemptions for certain user groups provided by the Danish law on copyrights / intellectual property right.

Among the participants of the working group, there were different interpretations of the consequences the implementation of the EU InfoSoc directive (EU CD 2001) might have in this respect. Some said the use of DRM technology as defined in the directive would *de facto* prevent the use of certain consumer exemptions granted by the law, while others held that it was a minor issue with limited practical consequences and, furthermore, that the rightholders should be conceded the privilege to limit or expand consumer access.

### **The case of netmusic**

Facing these opposing assessments the members of the working group chose to work with an exemplary case, i.e. public libraries including research libraries. Libraries seemed an obvious choice since they provide access to a broad range of information that is increasingly available in digital formats, while they are also obligated by law to provide free access for their national audiences as well as to ensure quality, diversity and actuality (Thorhauge 2005). The case included past experiences and future expectations and challenges libraries are facing with respect to digital information.

One of the key elements was the concept of "netmusic", a service hosted by the public libraries that allows citizens to download music over the Internet and listen to it in a period of seven days free of charge (see also Nielsen 2004). Netmusic is based on Microsoft's DRM system, which as of now means that music playback is limited to the Windows Media Player, thus excluding users of Linux, Mac, portable music players and home stereo devices among others. The explanation for this choice of DRM is that only this particular brand could reassure content providers on safety issues and make possible an agreement on the terms. The consumer is thereby licensed to listen to, but not copy the music. Today the netmusic service includes around 6,500 albums. Some 800 tracks are downloaded daily, which comes to a modest 0.2 percent of the total loan of CDs. The service is being criticised for lack of variety as well as disregard for most consumers' music listening behaviour (Teknologirådet 2005).

It is still only a relatively small selection of digital works that are available at the libraries, when it comes to books, music and films, while research articles are widely digitalised. The former is in part due to lacking or insufficient agreements between libraries and owners of rights, while the latter is due to the relatively limited risk of mass distribution. Furthermore most agreements on distribution of research journals and articles are negotiated at international level.

Since the working group consisted of several stakeholders, the discussions and disagreements on DRM reflected many of the conflicts that one may find in the more general debate on the relation between private and public information providers. To some, DRM represented a possible basis for new agreements and business models, while also preventing piracy. To others, DRM systems constituted a technical system that could take precedence over the legal system and shift the balance between consumer rights and the holders of rights. So it seems that the technical discrepancies of the assessment of DRM were repeated on an institutional level.

An important conclusion from this work therefore is that it is impossible to assess technology as such – without considering the possibly conflicting perspectives that different stakeholders may have on the use of such technology. In technology assessment (TA) this insight is far from new – but it is often forgotten.

### **Striking a balance?**

#### **The two main problems**

Using public libraries as an example, the work group has considered the conditions for the implementation of DRM technology. Without reaching an agreement, however, it was debated whether the legal protection of technical protection measures (TPM) might actually put citizens and public providers of information at a disadvantage when using digital works as compared to analogue works. When the EU InfoSoc directive was implemented in Danish law, it was decided to maintain the exemptions stipulated in Chapter 2 of the Danish Copyright Law, but it has remained a disputed question, whether the

use of DRM will render some of these exemptions impractical (Teknologirådet 2005).

According to some, users must be able to freely decide what to download and when, in order to ensure that the potential of digital technologies is fully utilized. Whether this is possible without affecting the conventional use of the material or violating the legitimate interests of the copyright owners, however, was not agreed upon.

The work group has not taken into consideration which division of tasks between public and private providers of information would be most appropriate in the future. Should public providers of information continue to play a mayor role in the general supply of information?

Two main problems will arise in any case: the need for new usage rights and the need to develop new DRM systems which meet new requirements.

#### 8. New usage rights

In order to make better use of new technologies, it is imperative that copyright owners and public providers of information agree on new usage rights in relation to the distribution and consumption of digital works. Such agreements between the parties have proven difficult to achieve due to the copyright owners' general hesitation to make digitalized information available for public distribution and usage. The main reason for this is the risk of illegitimate use and distribution of content. Should such agreements result in an increased uncompensated use of copyright holders' works, this may necessitate increased financial funding. Also it may become necessary to establish other clearing agreements. If new usage rights are not established, this may lead to a decrease in the volume of digital works accessible to the public. Likewise, the available volume of works may not be able to meet the demand in terms of quality, diversity and actuality.

#### 9. Required features of DRM Systems

Danish politicians and officials should try to reach an agreement on the required features of DRM systems, and they should consider to work towards an international standardization of DRM systems. The alternative may be

a proprietary market that may be harmful for competition and put users at a disadvantage.

Clearly, public stakeholders – potentially large users and consumers of DRM – should demand special features of these systems and thus ensure certain minimum standards, such as interoperability and open standards. As described earlier, the various types of DRM technologies differ greatly. It is therefore highly important to assess how much particular systems may interfere with the behaviour of consumers. The question remains, however, if systems that merely state the relevant copyrights to the end-user would suffice, or if we should implement systems that serve to further regulate user behaviour, such as the system already employed by Danish public libraries in their digital music service "net-music" or even Trusted Computing. The disadvantages of the latter are the potential limitations of free choice of technical platforms and privacy concerns (Schneier 2005). Politicians ought to debate whether DRM technologies used within the public domain must take into account the consumer exemptions stipulated in Chapter 2 of the Danish Copyright Law.

#### **The need for further debate and coordination**

Inherent in this discussion on the consequences and implications of DRM and digital distribution by public providers of information, are problems and challenges related to a range of different political domains.

##### *Legal problems and challenges*

- ▶ Do DRM systems and their ability to enforce conditions of use across national borders, including the collection of personal data, make it necessary to change the existing laws?
- ▶ Furthermore, should the present legal protection of DRM technology in the Danish Copyright Law be continually reviewed?

The Danish Parliament should take this into consideration when reviewing the rules of the legal protection of technical protection measures of the Copyright Law.



### *Market related problems and challenges*

- ▶ Should we establish new usage rights that make it possible for public services to distribute digital works?
- ▶ Do we need to keep an eye on the level of competition involved in the use of DRM technology?
- ▶ Is there a risk that the legal protection of DRM can serve to keep unwanted competitors off the market?

### *Technological problems and challenges*

In order to enhance free competition the various DRM systems should be interoperable and it should be secured that using DRM technology will not violate citizens' rights of privacy.

- ▶ Which features should public providers of culture and information then require of DRM systems?
- ▶ Should the various public stakeholders be able to make individual DRM-agreements with copyright holders, or should the public as such require a set of general features?

### *Problems and challenges of cultural policy*

Publicly financed cultural institutions must continually secure a selection of digital works that adheres to the legally binding demand for quality, diversity and actuality.

- ▶ Which features must they then require of DRM systems and the production of digital content in order to be able to fulfil

these obligations to the public – just as they have hitherto been able to fulfil the legally binding obligations in reference to analogue material?

- ▶ Is it feasible that new usage rights can be established on the basis of the present financial resources – or is further funding necessary?

### **Bottom line**

In conclusion, the experiences are limited and DRM is still a technology in the making. Public libraries and other information providers have yet to explore the possibilities of both digitalised information and DRM, with respect to their obligation to meet certain standards of quality, diversity and actuality. Therefore the parties need to form agreements on the right of usage of digitalised information. As a part of this agreement DRM technology should be considered, but to ensure interoperability an open standard may be required.

To fully explore these findings the Danish ministries of Culture, of Science, Technology and Innovation and of Economics and Business Affairs should intensify their corporation in the areas mentioned. Furthermore, politicians and officials should continue the attempt to establish a wider consensus on the long-term prospects in order to attain a balance between the copyright holders' legitimate demand for payment and the citizens' need for free access to information.

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**About the author:** Jacob Skjødt Nielsen is a project assistant at the Danish Board of Technology and a Master's student of social science and technology. Contact details: Jacob Skjødt Nielsen, phone direct +45 33455361, e-mail [jsn@tekno.dk](mailto:jsn@tekno.dk), The Danish Board of Technology, Antonigade 4, DK-1106 Copenhagen K, Denmark, [www.tekno.dk](http://www.tekno.dk)

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### Contact

Knud Böhle (Editor)

Institute for Technology Assessment and Systems Analysis (ITAS)

Phone: +49 (0)7247/82-2989 (-2501)

Fax : +49 (0)7247/82-4806

E-Mail: [knud.boehle@itas.fzk.de](mailto:knud.boehle@itas.fzk.de)

