

High Level Working Group on DRM “Migration from Levies to DRMs” Eurocopya/Eurocinema contribution

The objective of the High Level Group is to identify initiatives to be done in order to accelerate the exploitation of new services on the European broadband networks.

Eurocopya, as a representative of the European film and TV producers strongly supports, the introduction of effective and user-friendly DRM technologies.

One issue, which has been put into question by some stake holders is the possible opposition between DRMs and the levies, the later being considered as an obstacle to the roll-out of legal services.

The following papers explain, from two different angles, the complementarities of levies and DRMs in the digital environment.

As far as the application of the article 5.2.b of the copyright directive is concerned, the application or non-application of technical measures will be assessed by the Member States, which will exchange information and expertise in the framework of the contact committee defined by article 12.3 of the same directive.

The principle of this provision is already driving the setting up of the levies in the different concerned member states. The assessment of private copying habits in regard to the real proportion of “non-DRM” content could lead to a phasing out of the levies, a status-quo, but also to a rise of current levies and/or the introduction of new ones.

As stated in the first report on the High-Level group’s discussions, “*DRM systems are in an early stage of development*”, and “*the timescale to see meaningful progress towards mass-market deployment of interoperable solutions would likely be in the range two to five years*”. Such a timescale is a very long time in the digital world, and no phasing out scenario can seriously be established now.

Digital Rights Management systems and audiovisual private copying

Document submitted by Eurocopya

Eurocopya defends the interests of European producers of films and audiovisual works. It comprises the collective management societies of producers of films and audiovisual works responsible for collecting and distributing royalties for private copying that belong to the producers.

Less than a year after the adoption of the Parliament and Council Directive on certain aspects of copyright and related rights in the information society (2001/29/EC), the European Commission initiated a debate on DRMs and organised a series of workshops aimed at identifying the measures to be taken to facilitate the introduction of DRMs in the process of digital provision of protected content.

During the debates held in these workshops, the question of introducing DRMs focused on private copying, more specifically the royalties attached to media and equipment, which permit fair remuneration for rightholders in proportion with the private copies made.

After debating for long in favour of an exception for private copying during the adoption of Directive 2001/29/EC (because it promotes the sale of many types of recording equipment and supports), representatives of industry now refuse to support the other side of the coin, namely the corresponding royalties, arguing that they would constitute a major obstacle to the introduction of DRMs and to the implementation of new means of marketing protected content. They therefore asked the Commission to consider the phasing-out of these royalties on the basis of a distorted interpretation of the wording of Article 5.2 of Directive 2001/29/EC.

We should point out that these same representatives of the IT industry are also opposed to the introduction into computers (and other electronic products destined for the general public) of tangible measures to protect works against unauthorised copying, and even more opposed to making the implementation of such measures compulsory¹. Introducing such measures would raise a number of problems relating to protection of privacy and are strongly opposed by, among others, consumer organisations.

The question therefore arises as to what the real obstacles are to the introduction of DRMs and what is the actual strategy by the IT industry in ruling out absolutely royalties for private copying.

Before going into this matter in more depth, we think it essential to recall the position of Eurocopya.

While it comprises producers' societies responsible for the collective management of rights for private copying, Eurocopya has always in principle been in favour of exclusive reproduction rights and of the limitation of the scope of exceptions such as the exception for private copying.

What is special about Eurocopya is that it consists of societies whose members – producers of films and audiovisual works – are in principle hesitant about collective management and the remuneration mechanisms this involves. The producers are in favour of the individual management of their rights, which involves the “direct” exercising of exclusive rights in order

¹ <http://www.eicta.org/>

to prohibit or authorise (in return for payment) the reproduction or performance of each work for each type of exploitation (cf. licensing agreement with a video publisher, sale of a TV programme to a channel, etc.).

Therefore Eurocopya recommends the rapid and effective introduction of the latest DRM technology to enable producers to exercise their exclusive rights in the digital environment, according to the commercial models they have chosen.

However, when this right cannot be exercised materially, the producers represented by Eurocopya are willing to consider collective management, as in the case of the exception for private copying, provided that this does not undermine the normal exploitation of works and that it is combined with a fair right of remuneration.

We can see that DRMs are at an immature stage at the moment:

- The current techniques are, in most cases, at an experimental stage, and fall far short of corresponding to the objectives of efficiency and ease of use required by the industry and by the general public.
- It must also be pointed out that not all the equipment placed on the market to date is protected, and that some is equipped with protection against copying that is already obsolete.

Moreover, consumers have an “acquired private copying area” inherited from existing analogue private copying practices, which, whether one likes it or not, would be difficult to overturn. It is difficult to see how consumers could accept technological progress (migration to the digital environment) which undermines the private copying possibilities they had previously in the analogue environment. The general outcry caused by the technical protection measures for CDs is a good example.

Eurocopya consequently accepts the prospect of the transfer to the digital environment of the private copying practices in the analogue domain, namely in the case of audiovisual copying, the possibility of obtaining a digital copy from television. However, copying from a pre-recorded support (DVD) must in principle remain impossible (no private copying from DVD to DVD, as there is today no private copying from VHS to VHS).

While private copying practices continue in the digital environment, they must be based on royalties relating to the supports and/or equipment used for private copying in order to pay artists for the content copied.

The cinematographic and audiovisual industry is based on the exploitation in each territory of all possible windows for exploiting works (cinemas, DVD, VOD, videos, pay TV and free TV). Payment is made each time works are exploited. Private copying is still causing damage to rightholders because it reduces the “consumption” of works from these different windows, and hence the corresponding revenue.

The same applies in particular to “*time shifting*” (copy to be viewed later), since this private copying option which extends the audience of a work reduces the general public (and hence the income) that the work is likely to attract when disseminated later (either in a cinema, on video or on television).

Royalties for private copying are therefore intended to compensate for rightholders’ loss of revenue from copying of protected works within the family circle for a non-commercial

purpose. However they do not, and can never, constitute compensation (or even, a fortiori, an incentive) for piracy, which must be condemned and will continue to be combated, even where royalties for private copying exist (if only because the level of these royalties could never compensate for the damage suffered as a result of piracy).

Lastly, these royalties, as we will see below, do not under any circumstances undermine the introduction of DRMs.

Since the start of the discussions which led to the adoption of Directive 2001/29/EC, Eurocopya has therefore always been a fervent defender of the exclusive right of reproduction. However, it has defended the idea that, where the exclusive right could not be exercised practically, an exception should be introduced together with a fair right of remuneration: the exception for analogue and digital private copying.

Eurocopya's position on this essential point has not changed. Its position on DRMs is based on the latter and on the following considerations:

1. Audiovisual private copying today

A. Sources of copying:

At the moment there are many sources for private copying of audiovisual works:

- **Analogue television**

Analogue television is completely open to private copying and is one of the main sources of private copies of films, either on VHS videos or now on DVDs and hard disks.

- **Digital television**

Televisions and other digital media broadcast (and above will broadcast) works that may perhaps be protected against digital copying. However, it will still be possible to carry out analogue reproduction (the “analogue loophole”), enabling copies to be made from a digital source via analogue connections with digital equipment, and to then re-digitalise them before making an unlimited number of unprotected digital copies. This process, for which industry has not found (and will probably not find) a solution, thus enables one to make an almost unlimited number of digital private copies.

Moreover, several operators of satellite television pay channels successfully launched digital decoders in 2002 for the digital private copying of programmes (for instance, Canalsatellite and TPS in France).

- **DVD**

Anti-copying measures on recorded DVDs were “cracked” in 1999 and their specifications were divulged to the general public.

“Ripping” a data DVD and recording the work on a data CD-Rom now takes less than two hours and can be done by any teenager with access to a computer. The programs for this type of operation (for instance DivX, the compression standard) are now available on the Internet and are among the programs most frequently downloaded.

Large stores (Carrefour, Cora, etc.) sell software that enable DVDs to be encoded in DivX format, while at the same time selling players compatible with this type of compression format demanded by consumers.

- **Internet**

Software for exchanging files such as Peer-to-Peer (P2P) (Kazaa) permit the free downloading of many films and numerous music files, most of which is illegal. At the moment, all films printed on DVDs are almost instantaneously available on P2P sites. No fewer than 750 million files are constantly available for downloading (in August 2003).

Some of these sources are legal, but others are not. Copying of audiovisual works from these sources is still private copying, provided that it takes place in the family circle, is non-commercial and meets certain criteria defined in the “three-step rule”².

² Some special cases, which are not in conflict with the normal exploitation of the work, do not unreasonably harm rightholders. For further details see www.wipo.org.

B. Private copying and piracy:

The concept of private copying is independent from the source of the copying. Private copying is not defined by the source of the copying, but by the purpose. This was already the case in the analogue environment (would one seriously consider accusing a viewer of piracy who has recorded a film on video, if the television channel has not paid the broadcasting rights for the film?).

Other analyses (for instance the fact that copies made within the family circle from an illegal source should be exempt from payment of royalties) are harmful only to rightholders. They are particularly shocking when they come from the industry itself, the products of which are used to copy from these illegal sources, which is tantamount to invoking its own depravity (the supply of means destined for acts of piracy) to evade its obligations.

Private copying is not an incentive for piracy: rightholders will always have an interest in combating piracy as they do at the moment within the limits permitted by law, since remuneration for private copying is never likely to achieve a level equal to the loss of income as a result of piracy.

C. Remuneration for private copying:

No licence remunerating private copying is attached to any of the works obtained from these sources.

All of these copies that could not and cannot be prevented³ must then be paid for by royalties attached to the equipment and/or supports that permit such copies.

The fact of opting for a dual collection system (equipment and supports) or a single system covering supports only, or even to concentrate the royalties on a considerable number of items is left to Member States to decide. The dual system appears however to be the fairest of all, since it enables the remuneration of the content copied to be combined with all the products, the sales of which are based (all or in part) on the private copying options available to consumers.

These royalties are not under any circumstances an obstacle to the continuation of the research into DRMs, or to the introduction of these technologies on the market. In fact, in the countries that do not have this system of royalties for private copying (United States, Great Britain, etc.), the adoption by the public of DRM-protected media is not any faster.

On the contrary, we are witnessing the emergence of non-obtrusive solutions that leave a considerable margin of manoeuvre to users as regards possibilities of use and reproduction. These methods permit copying (with certain restrictions that are easily overcome by the uninformed consumer), thus leaving the way clear for traditional habits of circulation within the family circle⁴.

³ An empirical analysis of copying habits shows that the development of copying techniques has always been faster and more constant than that of the means to control them, since the development and standardisation cycles of the latter take much longer.

⁴ Example: a user downloads a protected file from a legal site, records it in compliance with his/her licence with Microsoft Media Player. He/she is then free to re-encode/recopy using the same Media Player in a non-protected format.

D. Private copying and on-demand services:

It is sometimes stated that the price requested by online music services (Tiscali Music Club, iTunes Music Store...) includes the royalties relating to copying onto a physical support when authorisation is integrated into the file (via a "private copying space" controlled by D.R.M.) and obviously passed on in the sales price. This copying possibility would therefore, according to some, justify the pure and simple abolition of royalties for private copying.

This position would be equivalent to considering that, in a given situation of private copying possibilities, the sales price of a recorded CD already includes the royalties corresponding to the private copying which would perhaps be carried out. This position would obviously be inadmissible: it is a foolish deal for rightholders (who would no longer receive the additional remuneration owed for specific uses of private copying) and for consumers (who would, in this case, be the only ones paying the remuneration for private copying apparently included in the sales price), and would benefit only industrialists (who would thus be exempted from all remuneration).

While licences do in fact cover the first copy (the one corresponding to the making available of the actual work), and while royalties are paid to the rightholders concerned for this, this must of course be taken into account in the procedures for determining the level of remuneration calculated for private copying. The same could not, however, apply to copies made from the first copy.

Moreover, this analysis could not, of course, lead to the complete abolition of royalties since other sources of copying exist.

Neither does it take account of the fact that, once the work is copied onto a physical support, the latter in turn enters the normal circuit of use within the family circle, thus making these works available for copying by a person not holding the necessary rights. However, these copies are not included in the rights transferred by the rightholder to the initial consumer who held the appropriate licences. Hence there is damage, and a need for fair compensation.

As pointed out by the Supreme Intellectual Property Council in France in December 2002, "while remuneration for private copying is lower than the harm suffered by the rightholder, the application of technological measures will not justify a reduction in the level of remuneration".

2. The new online video services

These services, most of which are still being developed, offer/will offer online films based on different options. In Europe, the streaming technology is currently the one most frequently used, enabling consumers to see on demand the film of their choice for a certain period of time. The technology for programmes available on the Internet such as VCR Streambox⁵, while not widespread for the moment, enable a streaming flow to be converted into downloading, in other words into a copy that may or may not be authorised. Other projects offer downloading. Some majors have opted for this in the US.

The models introduced by the music industry selling online music files, the latest example of which is Apple, will probably be extended to video. Apple⁶ offers music files for \$ 0.99 which can be downloaded with authorisation to make an unlimited number of copies, with some reasonable restrictions, which will not prevent the user from engraving/copying pieces that can be played on other items of equipment (family, friends, etc.).

Consumers who buy films online will store them on a blank DVD/data CD or on a dedicated or non-dedicated hard disk. They will or will not purchase the authorisation for making an (un)limited number of copies (ie. the purchase made will be combined with a “private copying space” that may be limited).

The amounts of the royalties attached to these supports or recording equipment could take account of the existence of the technological measures, perhaps making it possible to pay at source for the first copy (recital 35 of the Directive).

The existence and development of such services could not result in the abolition of royalties aimed at remunerating all other acts of private copying that are not paid for at source, as mentioned under the previous point.

Be that as it may, we should point out that **royalties and the collective management which collects them are not, in any case, an obstacle to the development of online services** (such as VOD) supported by DRMs.

⁵ http://www.download.net/audio_software/audio_tools/streambox_vcr.cfm

⁶ <http://www.apple.com/music/store/>

3. Recorded media fully protected against copying

The existence of royalties does not at all prevent rightholders from setting the limits of private reproduction of their works. But they must ensure, as stated in Article 6.4 of Directive 2001/29/EC, that the public must have the possibility of making copies (but not necessarily from any source), in agreement with the so-called “three-step” test.

The position defended by Eurocopya on private copying is in line with these provisions. It is worthwhile recalling that **Eurocopya accepts the prospect of transfer to the digital environment of private copying practices in the analogue domain, ie. for audiovisual material, the possibility of making a digital copy from television. However, a copy made from a pre-recorded support (DVD) must in principle be impossible** (no private copying from DVD to DVD, just as today there is no private copying from VHS to VHS).

The marketing of a pre-recorded support that is fully protected against copying has an effect on uses of copying and/or sales of blank supports that can take copies, since there is no alternative source of copying.

This could have been the case for DVD Video (pre-recorded support), the content of which cannot in principle be copied (CSS protection system). Apart from the fact that this support is not properly speaking fully protected against copying, other sources of audiovisual copies exist today and will exist in future (cf. para. 1, particularly copying on recordable DVDs from television), which justifies maintaining remuneration for private copying.

Where alternative sources of copies exist, the introduction of a support excluded from the scope of private copying by technological protection measures can thus perhaps be passed on in the remuneration for private copying, depending on the uses (see para. 6 below), but it cannot in any case lead to a complete abolition of royalties.

This last example confirms the **complementary nature of DRMs and royalties**, not their opposition as stated by representatives of the IT industry.

Lastly, even if the general public called (rather improbably) for protected media, this would not change anything as regards the reality of the **established base consisting of millions of unprotected recordings circulating among the general public** (CDs in record libraries, personal collections, web sites for sales between private individuals such as eBay, etc.), which would still continue to be the subject of private copying. This situation alone makes the simple abolition of royalties unrealistic.

4. Recorded media partially protected against copying

These media may be offered for sale or rent with the option of making a limited number of copies for private use.

The development of this type of product should influence royalties and the amount of the latter in the same way as for online services. The principle contained in the Directive should, however, be applied in line with copying habits and all the technical characteristics linked to recording supports.

For example, a film on DVD Video which is sold with the option of making one copy in the family circle. The copy would be made on a blank recordable DVD to which a royalty is attached. Does the royalty represent for the consumer a dual payment? The answer must be qualified.

Given the constant development of compression technologies, a blank recordable DVD can actually hold seven compressed films with a quality close to that of DVD video. Will consumers record only the DVD video they have purchased with the option of making a single private copy, or will they also record on this same recordable DVD six other films downloaded from the Internet or disseminated on television? And what about the consumer using a rewritable DVD (RW)?

In the light of these points, it can be stated that payment of a royalty for private copying on a blank DVD would be justified, even if a DVD video is purchased with an option to copy the film.

This example also illustrates once again the complementary nature of DRMs and royalties in the digital environment, and the need to maintain the latter while promoting the introduction of DRMs.

5. The discriminatory nature of royalties

The industry (of which some representatives are owed royalties for private copying) is calling for the abolition of royalties as though their existence prevented the development of DRMs.

Many arguments have been put forward. In addition to the argument of the dual payment by consumers who buy blank media to make prepaid copies of protected content or of consumers who must pay royalties on their equipment and on the blank media they buy, there is the argument relating to the discriminatory nature of royalties.

Royalties on equipment and media that permit private copying are paid by all purchasers (sometimes there is a possibility of a refund for certain professional categories) regardless of whether or not they make any private copies. DRMs, however, are reserved for users only.

We consider this argument fallacious since:

- **It is unlikely that a device or support permitting private copying of protected works would never be used for this purpose⁷.**
- **The amounts of the royalties are established in line with copying habits and hence quantities of protected works actually copied.**
- **Consumers who do not have equipment or blank media do not pay anything.**
- **Consumers who have equipment and blank media generally copy protected contents in varying quantities.**

If royalties for private copying are discriminatory, the same applies to road taxes which do not take account of the kilometres travelled, to taxes on rubbish paid by each household which do not take account of the number of people living there and hence of the amount of waste produced, broadcasting licences which do not take account of the composition of households either or of the number of hours spent watching television, social security contributions, etc.

Royalties are not discriminatory, therefore, but are based on the sharing of the cost between media consumers and devices permitting the copying of protected works.

⁷ This argument was already put forward by a German Parliamentary Commission in 1965.

6. Level of royalties

Eurocopya is in favour of a regular re-examination of devices and supports subject to royalties and to the amounts relating to them. These matters must be assessed, upwards and downwards, in line with several parameters including the following:

- Copying habits
It is interesting to determine precisely the main sources and supports for each type of work.
 - i. **From where?**
The source of the copy determines which media are the most “vulnerable”.
 - ii. **What?**
Identifying the content copied, and in what proportion, will help when distributing the royalties to rightholders.
 - iii. **To whom?**
The destination of the copies enables the various supports to be identified.
- Technological inventory
 - i. **Technological measures in force**
It is important to find out about not only the availability of technological measures, but also and above all their use and effectiveness.
 - ii. **Copying techniques**
They are developing rapidly, often faster than the technological measures.
 - iii. **Capacity of devices /supports**
The capacity of supports (memory card, CDs then DVDs...) and devices (hard disks, etc.) is increasing, which means that for a given compression rate, it is possible to store more works on a support. Hence there is greater damage done to rightholders.
 - iv. **Compression rate**
The improvement of compression rates is continuing, increasing the number of works stored on each support/device, hence in effect aggravating the damage.
 - v. **Rewritable nature of supports**
A support that can be used again can damage rightholders more than a similar support that can be used only once.

7. Conclusions

The legal framework proposed by the Directive enshrines the complementary nature of private copying royalties and technological measures (DRMs). What could wrongly be interpreted as a failure by the European legislator to choose between two antagonistic scenarios (one the one hand, a systematic exclusive right implemented via DRMs, on the other hand a broad range of exceptions to the exclusive right, whether or not accompanied by royalties) is in fact an intelligent compromise permitting harmonious cohabitation between DRMs and royalties, in a bid to ensure optimal protection for artists.

The Directive does not contain any provisions stating that royalties for private copying are methods of remuneration only related to the analogue environment. It does not provide either for the phasing-out of royalties, but on the contrary gives Member States the option of introducing an exception for private copying combined with a right of fair compensation, remuneration for private copying.

In this respect, the Directive is in keeping with the socio-cultural aspects of the European market.

As a Federation of producers' societies, Eurocopya supports the introduction of measures to protect works and to develop new services to sell audiovisual works online.

However, since private copying practices look set to continue, Eurocopya considers that it is essential to pay artists and cultural industries accordingly, by attaching a fair fee to all devices and/or media permitting the private copying of protected works.

In the absence of a fee for private copying, a non-remunerated model of freedom of use would prevail for a very large majority, at the expense of artists and cultural industries, without however resulting in any substantial increase in the use of DRMs (cf. the United States, Great Britain, etc).

Straightforward availability of (or even only advertisement about!) DRM technologies cannot alone justify the abolition of royalties systems for private copying. Only after examining their actual use and adoption by content providers and consumers, as well as their impact on private copying practices that a reduction in the level of royalties, or even their abolition, could perhaps be considered.

Given the current state of technology and consumer habits, the positions adopted purely and simply with a view to abolishing royalties are based more on the determination of manufacturers to exempt themselves from the payment of all royalties than on an absolute need in order to develop DRMs.

It would in fact be particularly paradoxical if Europe were to sacrifice one of its systems of dissemination and remuneration of independent artistic creativity simply because of the prospect of a few proprietary DRM solutions that are, moreover, promoted by dominant non-European operators, which would simply reinforce the dependence of European cultural industries on these operators.

In this respect, we find it inexplicable that the examination of open-source DRM solutions is absent from the present debate.

Overview of the implementation of DRMs in the different audiovisual exploitation windows.

This note tries to draw an overview of existing and future identification and protection of audiovisual works, in each stage of their exploitation (also called ‘windows of exploitation’: consecutively theatrical release, DVD, Video On Demand, Pay TV and Free TV).

The logical exploitation of a work means maximizing the income for each successive window, meaning an appropriate protection is required for each one.

DRM technologies have two main goals: to identify and to protect a given work. The identification being quite efficient and thus less problematic¹, we will focus here on the protection.

Theatrical release

At present, there is no precise technology to identify a work displayed in a movie theatre, beside the law and the theatre good will.

Traditional projection techniques are a few decades old, and do not include any protection whatsoever. A major source of illicit reproduction is filming a projection with a digital camera. The movie, usually of poor quality, is then copied on physical supports and sold on the streets, or traded on the Internet.

Another way to reproduce the movie is to have access to the film reels and to make a proper transfer. This sometimes happen but the requirements restrict the practice to well organized and ‘commercial’ pirates.

Although quality issues are the only obstacles to large-scale piracy at the theatrical stage, there seems to be a massive exchange of such pirated movies on the Internet. Nevertheless, copyrights ought to be enforced, and some technologies will allow some kind of identification or enforcement.

The perspective of the digital cinema will enable the introduction of new protection mechanisms provided by companies such as Cinea (www.cinea.com) that might prevent the taping of projected movies thanks to a *disruptive signal into the video stream of a movie while it plays in the theater, thereby significantly degrading any video copy of the movie*. The technology will be unperceptible to the human eye.

DVD release

The DVD format was launched with what seemed at that time a good protection technique called Content Scrambling System. On top of that, Macrovision ads a protection technique called “ACP” that mainly consists in an automatic gain control that causes the image to distort on unauthorized copies.

The table (courtesy of Macrovision) compares the two protection techniques in regard to different setups used to try to copy a DVD: linking to a VHS, a DVD recorder, a DV camcorder or using a PC. It confirms that the weakest link here is the computer, where both technologies can easily be circumvented.

¹ ISAN numbers embedded in the works will allow, for example, quick identification.

Overview of the implementation of DRMs in the different audiovisual exploitation windows.

		IMPACT					
		VHS-VCR recording	DVD Recorder	Analog input to PC DVD recorder	Digital-to-Digital copy on PC	DV Camcorder Analog In	Digital VCR Analog In
TECHNOLOGY	CSS	N/A	N/A	N/A	Not effective with DeCSS	N/A	N/A
	ACP	Effective (nearly 100%)	100% effective	Effective in major brands	Not effective	Nearly 100% effective with nearly 100% of DVD players.	Nearly 100% effective with nearly 100% of DVD players.

Source: Macrovision

Although the DVD format is still officially ‘protected’, user-friendly circumvention software and DVD burners below 100,-€ are widely available. DVD copying is thus on the rise.

A solution might be a format change, but recent developments in the music business, where DVD-Audio and SACD were launched (at least partially) to prevent copying of the vulnerable CD format cannot be qualified of success. Indeed, in order to be effective, the format has to be adopted by the consumers, meaning buying new or upgraded equipment: but these consumers may not feel the need, as for new audio formats, for an upgrade, especially if they are happy with the current format, like DVD.

The upgrade from a digital format to another will however be harder than the quick analog-to-digital transition, which occurred in the last five years.

The switch to high-resolution display and broadcasting technologies may be an occasion to unveil a new format. But even so, this does not mean the then new format will necessarily avoid the fate of the DVD that was publicly cracked in a matter of months.

If windows of exploitation are not enough in sync worldwide, the distribution of DVDs might have an impact on traditional theatrical exploitation, thanks to digital projectors and “home cinema” equipment that could transform a room into an unofficial theatre (for example on university campuses or developing countries).

Video On Demand

Current streaming services, whether via set-top boxes or directly to the PC, are using DRM technologies (for instance Windows Media DRM). The circumvention of the protection is not well developed, mainly because it will be easier to reproduce the work from a DVD or to download it from the Internet.

The market for video DRM and TV via DSL is still in its infancy, and new formats may still emerge.

Digital and analog Pay TV (air, cable or satellite).

In the US, a growing amount of shows are broadcasted in HDTV. These shows can be recorded on personal video recorders. These recorders can be directly or indirectly (through some largely documented modifications, see for example www.dvarchive.org or sourceforge.net/projects/tivoutils) linked to personal computers that allow reproduction, re-encoding and Internet sharing.

Some digital broadcasting techniques require set-top boxes, mostly to decode the content, but those set-top boxes do not prevent analogue or digital taping.

Overview of the implementation of DRMs in the different audiovisual exploitation windows.

Digital or analog free TV (air, cable or satellite).

Whether through Pay TV or free TV, analogue broadcasts are not protected against digital or analogue copying.

Some stakeholders are currently pushing for a Broadcast Flag that would restrict copying behaviours with digital (paid or free TV). This Broadcast Flag requires adapted hardware to function properly and devices that do not include adapted components are insensible to the system. The broadcast flag implementation thus needs legislation to impose hardware protection on all devices, thus a widespread upgrade from the consumer base, supposedly pushed by new legislation.

Peer-to-peer networks.

There is currently no legitimate peer-to-peer audiovisual distribution system. No particular protection is attached to most of the file-trading happening on peer-to-peer networks. Movies filmed in theatres and DVD copies are almost instantly available for free on the Internet.

Thus, although it is not a window *per se*, peer-to-peer seriously interferes with current exploitation schemes. For a movie, a high low quality copy is available as soon as it hits theatres, and a high quality copy can be freely downloaded right after a DVD release, eliminating the need to buy it or rent it, but also reducing the perceived value of the DVD. For a TV show (mostly fiction), hard disk recorders and HDTV allow a quick dissemination of popular shows, without advertising, dangerously reducing the value of re-runs.

Conclusion

The rise of the DVD is both great and terrible news. The high sales numbers (now a bigger market than theatre exploitation) indicate there is a rapidly growing market for this form of entertainment. But current devices, computers and networks pave the way for a quick uptake in audiovisual piracy.

DVD and free TV are the most popular and the most vulnerable media of the entertainment value chain. The absence of protection, the rapidity of transformation and the soon-to-be widespread broadband pave the way for massive copying.

If a chain is never stronger than its weakest link, then the audiovisual chain is very vulnerable, at almost all the stages. The strongest seems to be Video On Demand, but it is such a new medium that no empirical testing of its protections can be performed yet.

Because there will always be at least a weak link, because media convergence, wireless networking, broadband, new devices will expand our ability to handle media as we please and, finally, because new computers will indifferently play protected or unprotected media, DRM technologies will not apply to all the links of the chain. They will certainly be very efficient in some cases, but neither do they settle the problem of audiovisual piracy in theatres, nor do they prevent digital private copying from a DVD or from Television.

In the audiovisual market, we are still very far from an optimal, protected distribution chain whether through DRMs or not.

Overview of the implementation of DRMs in the different audiovisual exploitation windows.

We repeat: levies are not the perfect solution. They cope, however, with the imperfections of the exploitation chain and the vulnerabilities of some media that give the opportunity to consumers to exercise a private copying exception.

In regard to the above-mentioned facts, but also to what the consumers look for in successful legit musical services, Eurocopya firmly believes DRM are an important complement to copyright levies schemes, but can in no way supersede them.

Eurocopya is strongly supporting the introduction and the development of effective and consumer friendly DRM solutions for any media use.