INDICARE Monitor

About Consumer and User Issues of Digital Rights Management Solutions

www.indicare.org **ISSN 1614-287X**

INDICARE Monitor Vol. 1, No 1, 25 June 2004

Content

Editorial of INDICARE Monitor Vol. 1, No 1, 25. June 2004
The INDICARE Monitor: What is it good for?

By: Knud Böhle, ITAS, Karlsruhe, Germany

Abstract: Within the INDICARE project the INDICARE Monitor is an important means of analysis, information, and communication. This first editorial describes the aim and focus, concept, spirit, target groups, dissemination of this electronic publication, and introduces the articles – of this issue: two on mobile services and two conference reports.

Keywords: INDICARE, information resource, newsletter

Aim and Focus

There are many electronic resources on Digital Rights Management available. So what is a new one like this good for? Of course, time will tell. However there are some characteristics from the outset that might render the undertaking worthwhile: aim and focus, concept, „spirit“, and your envisaged co-operation.

While the overall goal of the INDICARE project is to establish and maintain an Informed Dialogue about consumer and user issues of DRM, the publication of the INDICARE Monitor is an important means of communication to achieve this objective. On the one hand it aims to monitor technological, legal, business, and social developments concerning DRM solutions, especially in Europe, trying to draw attention to consumer and user concerns, and on the other hand it aims to stimulate interaction of experts and public debate. The INDICARE Monitor is not a one way street of communication. It supports informed debate among knowledgeable people.

Concept

To achieve a maximum of interaction, the publication process is composed of two steps: First, after a rigorous internal review process, articles written by members of the INDICARE team and external DRM experts are published on the INDICARE website. At this stage the public is invited to debate the content and to argue with the respective author online. After at least 10 days of web-presence, authors are free to will revise the article in the light of debate.

After revision, consolidated articles will be selected for the INDICARE Monitor which is being published the last Friday of each month during the INDICARE project. The topics actually chosen depend on what catches attention at a given moment and on the agenda of the INDICARE project. Often we will choose a thematic focus for the monthly publication, arranging analyses of a subject from different points of view offering complementary information which helps to balance controversy. Each monthly issue will also provide an Editorial and a Masthead containing among others information about the editorial team and the authors of the issue.

„Spirit“, Readership, and Dissemination

The INDICARE Monitor intends to convey unbiased information and to cover the whole spectrum of opinions, including those of the prominent industrial stakeholders as well as those of consumers, non governmental organisations, civil rights movements, and groups threatened by social exclusion. The "spirit" of articles could be expressed in the following slogan: „We reject DRM systems disregarding consumer and user concerns, we believe in reasoning, discussions, and consensus in order to achieve better solutions, and not in code as code“. Obviously our motto is inspired by the famous sentence attributed to Dave Clark of the IETF "We reject presidents, kings and voting, we believe in rough consensus and running code".

The targeted readership are all knowledgeable people with an interest in user and consumer concerns of DRM solutions such as stakeholders, interested citizens, policy-

makers, scientists, and last not least also organised user and consumer organizations. The style of articles attempts to take the diversity of readers into account. It is meant to be analytical and journalistic at the same time, and it will strive to make complicated legal, technical and economic matters understandable, avoiding jargon without trivializing things.

To serve different kinds of persons with different usage habits and expectations, several publication formats are available: Individual articles can be commented and downloaded as soon as they appear on the INDICARE Website. Readers who wish to be alerted and receive the article directly, may use the RSS feed. Readers may also subscribe to an e-mail newsletter sent out twice a month with information about new articles and the INDICARE Monitor the day it appears.

Articles in this Issue

The content of the first issue is composed of just one article by each partner in the INDICARE project. While Nicole Dufft, Berlecon, Germany analyses the prospects of music on the mobile phone with a view on consumers' specific demands for music services, Kristóf Kerényi, SEARCH Laboratory, Hungary writes about Standards in the Field of Mobile DRM, helping end users to find their way in the maze of drafts and bodies. One interesting pointer is about the competition between ODRL (Open Digital Rights Language) supported by the Open Mobile Alliance (OMA), and the Microsoft-supported XrML (eXtensible rights Markup Language).

In the remainder of this issue we have included two conference reports: Natali Helberger from the Institute for Information Law, Amsterdam, gives an account on the Jupiter Conference, Digital Rights Management Strategies, New York 12-14 April 2004, while Knud Böhle, Institute of Technology Assessment and Systems Analysis (ITAS), Karlsruhe, Germany reports on a Conference held in Munich on April 22 on „Digital Rights Management – Distribution and Security of Digital Media and Information“. Although one was held in the United States and the other in Europe, the key message of both sounds similar: the old days of criminalising consumers as pirates and thieves have gone, the interplay of players has become better natured. Nevertheless, the standing of consumer and citizen concerns in DRM discourse still seems rather weak.

Bottom line

The development of the INDICARE Monitor itself is an ongoing process. What we deliver today is sort of warming up. It is likely that the publication will improve in the course of the INDICARE project when we get deeper into the issues through our own investigations. In the end, however, success of the INDICARE Monitor will depend on your willingness to discuss the articles and your willingness to turn from a reader into a participant of debate and even author of INDICARE Monitor articles.

Welcome to the first issue of the INDICARE Monitor!

Knud Böhle
(Editor)

Sources

- The Webpage of the "INDICARE Monitor" can be found at
- http://www.indicare.org/tiki-page.php?pageName=IndicareMonitor

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 acts as editor of the INDICARE Monitor. Contact: + 49 7247 822989, knud.boehle@itas.fzk.de

Status: first posted 25/06/04 for INDICARE Monitor Vol. 1, No 1, June 2004; licensed under Creative Commons.

URL: http://indicare.berlecon.de/tiki-read_article.php?articleId=20

The dream team: music on the mobile phone?

By: Nicole Dufft, Berlecon, Berlin, Germany

Abstract: Mobile Music is a hotly discussed new field of business that is expected to grow strongly over the coming years. Most mobile operators and music labels are currently launching or about to launch mobile music services. However, as promising as this new market may look, there are a number of issues that need to be addressed before music on the mobile phone can really become an attractive (mass?) business. In particular, the suppliers' wish for copyright protection has to be matched with consumers' specific demands for music services.

Keywords: music, mobile phone, infringement, consumer needs

Introduction

Two of the most heavily sold electronic devices in Europe in 2003 have been mobile phones and MP3 players. In one of the latest issues of Germany's weekly "Der Spiegel" you can see actress Calista Flockhard jogging with an iPod in one hand and her mobile phone in the other (Der Spiegel, May 3, 2004). Now imagine that these two very successful products could be merged into one and music could be consumed on the mobile phone. The match seems perfect! Online music services on the mobile could offer a new, very attractive source of income to some of the largest companies in Europe – ranging from media technology giants such as Sony or Nokia to mobile operators such as T–Mobile or Vodafone.

Strong growth of the mobile music market expected

There are a numer of arguments that make this proposed success story even more appealing:

- Music on the mobile phone is already a big business. In the UK, ring tones outsold CD singles in 2002 and 2003 (see Concise-Insight?.com, March 2004); in South Korea, revenues from mobile music services already outstripped all CD sales in 2003 (see Rafat Ali, March 2004).
- Unlike some other new technologies which require relatively strong changes in the consumption patterns of customers, the value proposition of music for the mobile phone is easily understood. It is only a small step from listening to music on portable music players to enjoying music on the portable phone (see Ollila et al. 2003).
- Billing music consumption via the mobile phone is very easy due to existing billing relationships between mobile operators and their customers.
- And last but not least, DRM–based business models are facilitated on mobile phones, since customers are — in contrast to the Internet — not anonymous but can be clearly identified by their SIM–card (see Hartung 2003).

Accordingly, the research firm A.T. Kearney expects that by 2006 20–30% of all music revenues will be over mobile phones. Most mobile operators and music labels are currently launching or about to launch mobile music services. European mobile operators such as T–Mobile in Germany, Telekom Austria, Telenor Mobil in Norway, Telia Sonera Finland or Eurotel Praha have already entered the market in cooperation with major music labels. Others are about to start their mobile music services within the next few weeks. In Germany, all four mobile operators are expected to offer online mobile music services by the end of the year (see de.internet.com, April 17, 2004)

Content owners fear that mobile networks could become a new channel for piracy

However, as promising as this new market may look, there are a number of issues that need to be addressed before music on the mobile phone can really become an attractive (mass?) business. In particular, it is yet to be seen if the various involved players in this

market (ranging from music labels over mobile operators and aggregators to handset manufacturers and technology providers) will be able to create business models that match the suppliers' wish for copyright protection with consumers' specific demands for music services.

Content owners fear that music on mobile phones could open up a new channel for illegal copying and copyright infringement. From their point of view, viable business models need to involve DRM solutions that prevent the unpaid use of music files. In the Open Mobile Alliance initiative (OMA) more than 250 industry players are therefore working on the definition of DRM standards for mobile networks. The first set of OMA standards, however, is said to be not entirely secure. As a result, some large music labels like Universal are not yet authoriszing full track downloads over OMA-compliant phones (see Schenker 2004). A number of other providers are using proprietary DRM solutions. This, however bears the risk of a fragmentation of the newly emerging market due to missing interoperability.

The lack of standards is however a normal feature of immature markets and their emergence will only be a question of time. But the application of DRM solutions involves yet another and much more severe risk: that such solutions neglect consumers, specific demands and limit possible uses of mobile music products. Forward–lock DRM solutions, for example, which prohibit forwarding of music to other devices and sharing with others would be contraproductive to a fast development of the mobile music market.

Consumers will only be willing to pay for attractive services that match their specific demands

Experience from the online music business on the Internet shows us that some of the most important factors for consumers, acceptance of online music services are: the ease of use, low costs, the possibility to access and store a large diversity of music collections, the personalisation of music compilations, listening to music on various devices and sharing music with friends.

- **Ease of use and low cost:** Most forms of music consumption require only little input functionality. The limited functionality of mobile phones, therefore, does not pose a severe problem to ease of use (see Buhse and Wetzel 2003). What does limit the ease of use, however, are long downloading times on current 2.5G networks. In addition, costs for file downloading are still way too high (see Lin 2004). At T-Mobile,s new "Mobile Jukebox" service, for example, downloading a 90 - 120 second version of a song costs € 2,49 and takes about 2 minutes.
- **Storing:** In addition, the limited memory on most mobile phones currently puts mobile phones at a clear disadvantage against music–only–devices such as MP3 players. Special devices at reasonable costs have to be developed that merge communication and music features. However, it is still questionable, whether such an all-in-one-devices could become a mass-market product or rather remain a device for dedicated music-fans.
- **Personalisation:** One of the major advantages of online music over traditional music consumption from physical media are the almost endless possibilities to select, save and sort music according to the very personal tastes of each user. The sale of music, therefore, has to be imbedded into a wide set of services. One example is the so-called "Personal Music Assistant", that will be released by Sony Connect and Telia Sonera in June, which includes a smart personalisation system that keeps track of individual tastes. Consumers can tailor their personal music stream by pressing a button on their phone to indicate whether they like or dislike a song (see paidcontent.org, March 17, 2004).
- **Diversity:** To date, primarily the large music labels are getting active on the mobile music market by cooperating with mobile operators and technology giants. Experience from the Internet has shown, however, that consumers want to access a wide diversity of music content, including work by less known artists. Towards

this end, the inclusion of smaller, independent labels into the service offerings of mobile music providers could become crucial in the medium-term.

- **Listen to music on various devices:** Consumers want to listen to their music collections on various devices that they possess. They will hardly be willing to pay for music downloads that are limited to just the mobile phone. Successful mobile DRM solutions will have to address this issue by allowing content to be legally transferred to different devices that belong to the consumer.
- **Share music with friends:** The success of peer-to-peer networks on the Internet cannot only be attributed to their low–cost–nature (or no-cost-nature). It also lies in consumers, inherent wish to share music with friends. The OMA has therefore developed a DRM concept, called superdistribution, that can turn private file sharing from a content owner,s enemy into a friend. Superdistribution allows that media content and the rights for using it are transmitted separately. The content can be forwarded to another device, but not the respective rights for using it. The content object contains some meta–data, though, informing the holder of the second device about how and where to acquire the related rights (see Hartung 2003). This allows a user, for example, to inform a friend via MMS about a brand new song. The friend can listen to the song once, but in order to store, copy or forward the song he has to acquire the necessary license from the music service provider. If superdistribution is applied intelligently it could become a very effective new marketing tool for content owners.

DRM has to support special user habits in consuming music

If the above issues are not solved by providers, online mobile music will hardly become a profitable new area of business. In the end, consumers will only be willing to pay for mobile music if the offered services support their specific habits in consuming music. For suppliers of mobile music this involves that they have to apply intelligent DRM solutions that enable various forms of music consumption such as sharing, copying and transferring music. Instead of using DRM to fight piracy and locking up content, it should be used as an effective instrument for satisfying consumers' demands. Mobile DRM solutions can, for example, be effectively used for marketing and promotion purposes in connection with low distribution cost (superdistribution) or for price-differentiation in various stages of the life-cycle of a song. Against this backdrop, DRM has to be regarded as enabling „money making“ instead of only as a way to avoid loosing money due to content leakage (see Ikola) Everything else will be contraproductive to a fast development of the mobile music market.

Sources

- Ali, Rafat (March 2004): „Mobile music Briefing Book“???
- Buhse, Willms; Wetzel, Amélie (2003): Creating a framework for business models for digital content. Mobile music as case study. In: Becker, E.; Buhse, W.; Günnewig, D.; Rump, N. (Eds.): Digital Rights Management. Technological, economic, legal and political aspects. Berlin et al.: Springer, pp. 271-287
- de.internet.com, April 17, 2004: Mobilfunkbetreiber sehen Musikverkauf als neuen Schwerpunkt
- Der Spiegel, May 3, 2004: Jukebox in der Hosentasche
- Hartung, Frank (2003): Mobile DRM. In: Becker, E.; Buhse, W.; Günnewig, D.; Rump, N. (Eds.): Digital Rights Management. Technological, economic, legal and political aspects. Berlin et al.: Springer, pp. 138-149
- Ikola, Sirpa H. (Nokia Mobile Phones): Mobile DRM http://www.forum.nokia.com/seap/Digital_Rights_Management_Sirpa_Ikola2.pdf
- Lin, Eric (2004): CeBIT 2004: Streaming ahead. The Feature, 17 March 2004 http://www.thefeature.com/article?articleid=100461
- Ollila, Mark; Kronzell, Mikael; Bakos, Niklas; Weisner, Fredrik (2003): Mobile Entertainment Business. Deliverable D5.4.2 of project MGAIN (Mobile Entertainment Industry and Culture) http://www.mgain.org/mgain-wp5-D542-delivered3.pdf

- Schenker, Jennifer L. (2004): Wireless: Is music on your mobile a new route for piracy? International Herald Tribune, April 5, 2004
- The Research Room (2004): Swing while you,re ringing. The opportunities for music on the mobile phone. Wireless Horizons February/March 2004, pp. 6-8 http://www.concise-insight.com/Main/Docs/WirelessHorizons2&3-04.pdf

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".

Status: first posted 27/05/04; revised for INDICARE Monitor Vol. 1, No 1, 25 June 2004; licensed under Creative Commons

URL: http://indicare.berlecon.de/tiki-read_article.php?articleId=16

Standards in the Field of Mobile DRM. Short description of some standards currently used in the field of DRM solutions

By: Kristóf Kerényi, SEARCH Laboratory, Budapest, Hungary

Abstract: Standardization of technologies is a very important point in Digital Rights Management in order to create a single solution or a small set of solutions which are widely used and thus accepted by the community of end users. This article focuses on DRM solutions in mobile telecommunications aiming to disentangle the organizations and standards in the field of mobile DRM solutions to help end users to find their way in the maze of drafts and bodies. The Open Mobile Alliance (OMA) supporting ODRL (Open Digital Rights Language) and Microsoft supporting XrML (eXtensible rights Markup Language) appear as powerful competitors in the standards race.

Keywords: standard, rights expression language, mobile DRM

Introducing OMA – Open Mobile Alliance

The Open Mobile Alliance – formerly known as the WAP Forum – was formed in June 2002 by nearly 200 companies including the world,s leading mobile operators, device and network suppliers, information technology companies and content and service providers. Goals of OMA are among others to deliver high quality, open technical specifications based upon market requirements, and to be the catalyst for the consolidation of standards activities within the mobile data service industry. OMA cooperates with other existing standards organizations and industry fora. Its focus is on the development of mobile service enabler specifications, which support the creation of market driven, interoperable end-to-end mobile services. Enablers are collections of specifications (enabler releases), which together form something like a standard for a service area fulfilling a number of related market requirements, e.g. a download enabler, a browsing enabler, a messaging enabler, a location enabler, etc.

Open Digital Rights Language Initiative

The Open Digital Rights Language Initiative is an international effort aimed at developing an open standard for rights expression in the DRM sector and promoting the Open Digital Rights Language (ODRL) within standards bodies. The ODRL specification supports an extensible language and vocabulary (data dictionary) for the expression of terms and conditions for any content including permissions, conditions, constraints, requirements, and offers and agreements with rights holders. ODRL is intended to provide flexible and interoperable mechanisms to support transparent and innovative use of digital resources in publishing, distributing and consuming digital media content across many sectors including publishing, education, entertainment, mobile and software. ODRL also supports protected digital content and honours the rights, conditions and fees specified for digital contents. It is important here that ODRL has been officially accepted by

the Open Mobile Alliance as the standard rights expression language for all mobile content. OMA found that ODRL meets its requirements of a lightweight and simple language for expressing rights, easy to implement and optimized for delivery over constrained bearers (i.e. relatively slow and expensive connections like CSD or GPRS) and suitability for specifying rights independently of the content type and transport mechanism. ODRL is co-published with W3C (World Wide Web Consortium).

OMA DRM Enabler

In 2001 OMA started a Mobile DRM initiative. As a result, in 2002, the first version of the DRM enabler release was published. This set of specifications allows the expression of three interesting types of usage rights: the ability to preview DRM content, the ability to prevent DRM content from being illegally forwarded to other consumers, and to enable superdistribution of DRM content. It relies on the following DRM components, found in most DRM systems:

- Rights Expression Language – DRMREL provides a concise mechanism for expressing rights over DRM content. It addresses requirements such as enabling preview of content, possibly prior to purchasing, expressing a range of different permissions and constraints, and optimization of rights objects delivered over constrained bearers. It is independent of the content being distributed, the mechanisms used for distributing the content, and the billing mechanisms used to handle the payments. DRMREL describes the structure of the rights expression language. The REL is defined as a mobile profile of ODRL.
- Content Format – DRMCF was invented by OMA to define the content encoding for DRM protected encrypted media objects and associated metadata. The content format is intended to be used in the separate delivery DRM method.

Partial implementations of this first specification are to be found in some mobile phones by Motorola, Siemens, Nokia and Sony Ericsson, while the latter two have also full implementations, realizing all of the specified methods in their most recent top-of-the-line phones. Naturally several vendors support the server side of OMA DRM 1.0 with middleware solutions. This year OMA released the DRM 2.0 specification. The major difference is that while the earlier version provided basic protection functionalities for limited value content (e.g. ring tones, black&white logos, screensavers and Java games), the new specification adds trust and security mechanisms to enable protected distribution of high-value content (e.g. video clips, music and animated colour screensavers). The new enabler release is designed for future phones presuming enhanced device features and multimedia capabilities.

XrML – eXtensible rights Markup Language

XrML is a completely different breed than the OMA specifications. Based on years of research at Xerox Palo Alto Research Center, which invented the digital rights language concept, and backed by patented technology, XrML is currently governed by ContentGuard. The eXtensible rights Markup Language provides a universal method for securely specifying and managing rights and conditions associated with all kinds of resources including digital content as well as services. In XrML, rights and conditions can be securely assigned at varying levels of granularity to individuals as well as groups of individuals and the parties can be authenticated.

XrML is extensible and fully compliant with XML, and supports XML Signature and XML Encryption for authentication and protection of the rights expressions. Although currently controlled by a private company, XrML is going to be governed by the international standards community. It has already given input for MPEG-21, the OASIS Rights Language Technical Committee and the Open eBook Forum. Note however that both XrML and ODRL are, although freely available, using patented technologies, so implementing a new DRM system could infringe on intellectual property rights. The most powerful adopter of ContentGuard's XrML technology is Microsoft.

Bottom Line

With ODRL and XrML as the two most promising general purpose rights expression languages (others are IPMP by MPEG and XMCL by Real Networks), the standardization of DRM solutions has begun. A key difference between ODRL and XrML is that ODRL seems more applicable to actual transactions in the real media and publishing world, whereas XrML is more abstract and has designs for a broader spectrum of applications. Now there is a race of sorts between the two big standardisation efforts: XrML is the one being used in commercially deployed solutions, including the DRM solutions from Microsoft. ODRL is still in the game, notably with gains in the wireless world, where OMA has adopted it as rights-management language for mobile content. Nevertheless, while Microsoft may not be a key player in the mobile phone industry yet, its operating system for smart phones is gaining support among device developers not to mention their huge share in the handheld computer market. No doubt, it will be interesting to further watch competition of standards in the mobile field.

Sources

- eXtensible rights Markup Language http://www.xrml.org
- Larose, Gord: DRM standards and standards-related groups http://www.info-mech.com/drm_standards.html
- Open Digital Rights Language Initiative, Sydney, Australia http://odrl.net
- Open Digital Rights Language (ODRL) 1.1. A comparision between ODRL and * XrML. DRM Watch special analysis reports, August 9, 2002 http://www.giantstepsmts.com/DRM%20Watch/odrl11.htm
- Open Mobile Alliance, La Jolla, California http://www.openmobilealliance.org

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. (Kerényi received a MSc in computer science from BUTE.) Contact: kerenyi@mit.bme.hu.

Status: first posted 15/06/04; revised for INDICARE Monitor Vol. 1, No 1, 25 June 2004; licensed under Creative Commons

URL: http://indicare.berlecon.de/tiki-read_article.php?articleId=18

A bite from the apple. "Digital Rights Management Strategies 2004", New York, April 2004

By: Natali Helberger, Institute for Information Law, Amsterdam

Abstract: This is a report from the Digital Rights Management Strategies 2004 conference in New York, 12-14 April. The conference was organised by Jupitermedia, under the chair of Bill Rosenblatt. The conference provided a platform for discussion, information exchange, brainstorm and product expo for about 400 representatives from the content industry, technology producers, academics and law- and policy makers. The report presents the highlights of three days of discussion on economic, technological and legal aspects of DRMs; what is new, what is controversial, and what could be on the agenda for the next conference?

Keywords: US-Conference, DRM-business model, DCMLs, consumers

Introduction

New York, Broadway; New York,s centre of cinemas, theatres and media provided an appropriate setting for Digital Rights Management Strategies 2004 - an interdisciplinary conference on digital rights management business, technology and legal issues. About 400 representatives from the content industry, technology producers, academics, legislators, etc. came together in New York to discuss about prospects and problems of DRMs, to network over breakfast bagels and

tea-biscuits, and to present their newest products. Panelists and participants arrived from all corners of the world, although the US representation was still the strongest. What follows is a selection of some hot topics at Jupiter DRM Strategies.

From DRMs to DCMLs - Digital content management solutions

While a majority of copyright scholars still discusses DRMs in the first place as a remedy to unauthorised copying and distributing of digital music, texts and other contents, Peter Sargent (Senior Analyst, Jupiter Research) left no doubt that this is a rather outdated and narrow view of reality. Or, to speak with the words of Chris Barlas (Rightscom) , content management is secondary for DRMs. In the first place, DRM is about "Digital Richness Management". This is because rights are complex and must be managed throughout the chain, rights management is a pre-requisite for creating rich multimedia products, and the complexity and volume of rights requires extensive automation of the rights management process.

Peter Sargent explained that, in practice, modern DRM solutions are far more than 'simple' anti-piracy devices. DRMs have grown out to sophisticated all-round content management solutions. As such, DRMs are implemented as basis for a whole range of different and new business models, such as tailor-made service packaged, arranged according to location, language or preferences; sharing, e.g. of medical records or government data; audience tracking and building of strong loyalty bounds with subscribers or the provision of hard to deliver services (e.g. newspapers in the snowy mountains of Canada), and many more. With other words, DRMs can present commercial users with a broad array of functionality to design solutions for the different requirements and challenges of an electronic business environment.

Who pays for DRMs ?

Security and functionality has its price. These were the conclusions from the panel on 'Economics of DRM I: Who Pays for DRM?'. Tsvi Gal (Senior VP and CIO, Warner Music Group), Eric Grab (Technology Architect, DivXNetworks, Inc.) and Talal Shamoon (CEO, Intertrust), under the chair of Bill Rosenblatt (President of Giant Steps, Media Technology Strategies, Managing Editor, DRMWatch.com and organiser of this conference) discussed the question of who pays for the implementation of DRMs. The answer is close at hand: in the end they are the consumers who pay for the costs of more security and functionality. With other words, products and services using DRMs might become more expensive. Less convincing, though, was the argument, that costs could remain 'invisible' to consumers as they formed an integrated part of the service costs. It was also agreed in the course of the conference, that DRM featuring products and services still have to compete with DRM-free offers, and one of the characteristics of the Internet is to offer consumers better options of choice and comparison.

Interoperability

Not less controversial, but also not less important is the question of DRM interoperability. Consequently, a separate section was dedicated to DRMs standards, chaired by Michael Gartenberg (VP & Research Director, Jupiter Research), under the participation of Willms Buhse (Acting Chair, DRM Working Group, Open Mobile Alliance), Leonardo Chiariglione, Ph.D. (President, Digital Media Project), Albhy Galuten (Chairman, Content Reference Forum). The speakers described interoperability of DRM solutions as a crucial factor for the future development and prosperity of this sector.

Interoperability is the ability of two or more systems or components to exchange information and to perform their required functions. Sharing the same hardware or software environment requires that the systems understand each others 'language' or standard. Examples from the pay-TV sector, Microsofts Palladium or of Apple's iPod illustrate that standardisation can have important implications for the information landscape. Users of the Apple iPod are forced to buy music from Apple's own iTunes site. Vice versa, IPod is the only player that supports the FairPlay DRM, and it does not support any of the dominant standards used by competing digi-

tal music services, nor does it license for the time being its own format to rivals. The existence or non-existence of standardised solutions, therefore, can decide not only on consumers, access to contents, but also about competitors, access to consumers.

The present tendency in the legal discussion is to move lightly over difficult ground, and basically leave the matter for the industry to solve. At least Europe is still suffering from its negative experiences from earlier standardisation attempts in digital television (for example its promotion of a common encryption standard for satellite television; Eurocrypt). This and the wish to refrain from imposing standards on the market that soon could be overtaken by technological or economic developments are common arguments against a legal mandate of certain standards, and those arguments seem also to dictate the policy in DRM matters. But, and also this was an outcome of the conference, until now industry representatives failed to suggest any concrete solutions on how to achieve this goal. So far there was only agreement that different forms of interoperability are possible, such as interoperability solutions at a technical level or at a business model level.

Mobile platforms

Mobile platforms and DRMs were another topic discussed in New York. The panel 'DRM Markets I: Mobile and Wireless Content' of Willms Buhse (Head of Products and Marketing, CoreMedia), Josh Hug (Development Manager, DRM and Applications, RealNetworks?, Inc.), Ralph Simon (Chair, Mobile Entertainment Forum Americas), chaired by Azita Arvani, President, Arvani Group examined the potential of DRMs in mobile markets. The speakers agreed that one "natural" strategic advantage of mobile platforms in digital content markets was the already existing service provider-subscriber relationships, as well as the fact that consumers are already used to paying for content and (value added) services. In addition, the business model of mobile network operators has already led to the necessary infrastructure for individual client management and billing. To this extent, operators of mobile platforms can benefit from long-standing experience with selling services directly to individual subscribers, and ensuring that only authorised subscribers benefit from certain services (as opposed to e.g. the broadcasting media that were characterised by the one-to-many distribution of services to a not further defined, anonymous audience). But apparently also the mobile industry still has to find attractive business models for selling acutal content to consumers. The provision of higher value content such as songtunes, music, video and streaming were named as promising sectors for future business activities. One important target group of these markets are the YAFs: Young, Active and Funseeking people. Superdistribution was another important key word in this context, as well as time-dated distribution and mobile equipment with preinstalled contents.

With this emphasis on content distribution, it is obvious that DRMs can be, and already are, of importance also for the mobile industry. And because mobile markets were described as still nascent in nature, they can probably benefit from the experiences made so far by the Internet content industry. The more so, since the mobile industry will probably be confronted with problems already known from the online industry (napsterisation, piracy, viruses, etc.). And also for the mobile sector, the issue of standardisation plays a prominent role. Among the things that were unclear was the question of who should push standardisation: mobile phone producers, network operators, government, or standardisation bodies?

DRMs and consumers

The issue of DRMs and consumers was one of the re-occurring topics of the conference. And again, it was interesting to note the different angles from which the consumer issue was discussed by representatives from the legal and the business world. In the legal discussion, DRMs are genuinely seen as a tool to individualise and personalise consumer-service providers relationship. Because DRMs manage the distribution of contents to individual consumers, it is argued, they are often designed in a way to identify and individually authorise single consumers, and thereby to break with the anonymity of

the world wide web. The consequence is, so Chris Barlas (Rightscom), that DRMs pave the way for "work and rule based relationships", i.e. specified contractual usage terms for different users or user groups. In contrast, industry representatives made repeatedly the point that, ideally, consumers should not be even aware that DRMs are used. Willms Buhse (Head of Products and Marketing, CoreMedia) referred to the need for DRMs being "unobstrusive".

It was interesting to note that no representatives of consumer organisations or other institutions representing the consumer side were present at the conference. Invisible also were interest groups representing the interests of consumers as citizens in access to information services and infrastructure under affordable, reasonable conditions, and under conditions that respect further public interest objectives. It was unclear whether this lack of representation was due to a conceptual failure of the organisers of the conference or the lacking awareness of consumer and citizens interest groups? Did the organisers perceived consumers still first and foremost as buyers and subscribers that are not more interested in DRMs than they are in the different transistors and technical specifications in their television or settop box? Or was it because the majority of consumer organisations has not yet recognised the impact of DRMs on the rights of individuals, both as consumers and as citizens, and still consider the safety of garden chairs and microwaves their prime battlefield (important issues, too - no doubt about that)?

It was even more interesting to note that some of the conference participants clearly welcomed this situation. As Josh Hug, Development Manager at RealNetworks?, Inc. put it: "Consumers are not represented here, perhaps that is good. They do not have to be. They have already enough power."

Do they? The quote might highlight the tensions and the level of insecurity on the side of (among others) the content industry. Similarly, the number of open questions signalled the lack of experience with and knowledge of the consumer perspective. Todd Chanko (Jupiter Research) identified in his presentation "Creating successful DRM-enabled business models" a number of key questions, namely: How can media companies take advantage of consumer attitudes toward content ownership and copying? What are examples of DRM-enabled business models? How elastic is pricing for DRM-protected content? Some other key questions that were raised during the conference were:

- How much choice do consumers want (if they want choice at all)?
- How to demonstrate added value to consume?
- How apart are seller and customer preferences?
- Managing consumers, experience: what do consumers want/expect from content, services?
- How to get users to accept DRMs?
- What do consumers value more: interoperability, stability, continuity or innovation, rapid technological progress?

The search for finding answers to all these questions might very well fill the agenda of a - still to be organised - conference on its own.

One conclusion to take home from this conference is that the functionality and application of DRMs reaches further than being simple anti-piracy devices, and that DRMs as a basis for a whole range of new models for marketing and distributing information have the potential to impact information markets and society to a far greater extent than commonly recognised. DRM Strategies was not the last conference of this kind.

Sources

- Further information can be found at the conference page: http://www.jupiterevents.com/drm/spring04/

About the author: Natali Helberger is senior project researcher at the Institute for Information Law, University of Amsterdam. She specialises in the regulation of converging media- and communications markets, electronic control of access to information and the interface between technique, media and intellectual property law.Contact: + 31 20 525 3646, helberge@jur.uva.nl,

Status: first posted 24/06/04; included in INDICARE Monitor Vol. 1, No 1, 25 June 2004; licensed under Creative Commons;

URL: http://indicare.berlecon.de/tiki-read_article.php?articleId=19

Interplay of players better natured than expected

A report from the Conference Digital Rights Management — Distribution and Security of Digital Media and Information, 22 April 2004, Munich

By: Knud Böhle, ITAS, Karlsruhe, Germany

Abstract: The professional conference was above all about market perspectives of copyright industries in the light of DRM, giving special attention to the music and publishing industry. This short conference report aims mainly to select and reflect those consumer concerns which were present in the talks by industry and academia.

Keywords: conference report, consumer, business model, infringement, Germany

The Munich Circle

Telling a friend that I was going to participate in an event of the Münchner Kreis (the Munich circle?!) he looked at me as if I were going to a conspiratorial circle‚s meeting. In fact it is simply „a supranational association for communication research", and DRM has already been a topic on their agenda for a while. The conference was a one day event with 10 presentations and a larger space for discussion towards the end. Although in terms of speakers and participants (conference material below) the event had a strong national bias, the issues dealt with are by nature of wider interest. Industry (Bertelsmann Music Group, Philips Corporate Technologies, Microsoft Germany, Deutsche Telekom, and Vodafone), researchers and consultants contributed to the conference. Open Source evangelist Bruce Perens, Berkley, and information scientist Rainer Kuhlen (during the debate) raised their voices as Digital User Rights advocates. Arnold Picot, chairman of the board of directors of Münchner Kreis, framed the conference with an introduction and a closing remark. About 200 participants attended.

General Impression

To start with a general impression: at this conference actors and positions appeared to be more flexible than in earlier days of DRM debate. Content providers acknowledged the role of IT-companies, and even thanked Apple for paving the way — of course the iTunes hymn was sung at various times this day. Music industry has lessons learnt accepting music downloads as new distribution channel and the challenges this new business implies. In a mid-term perspective Bertelsmann expects an oligopolistic market, and of course to become a major player alongside Apple. In contrast to earlier debates, industry now puts forward that the hassle for consumers has to be definitely reduced to make DRM solutions acceptable. Even fervent advocates of consumer concerns were well received at the conference. All in all, confrontation seems less attractive in the light of envisaged win-win situations. It would be interesting to know if this kind of responsive and almost playful interaction was simply due to the thoughtful arrangement of invited speakers by the organizers or can be taken as a sign of a new trend.

Consumer Concerns

Concentrating on consumer concerns, there was obviously a common understanding prevailing that the hassle with DRMs for consumers has to be reduced, and at best consumers ought to be integrated more consciously in new business models. This was more than pure lip service as it materialised in three strands of thought: first, basic forms of usage of non-protected media ought to be

preserved when shifting to DRMs-protected media, e.g. users should be enabled to play and use content on all devices they own. For example Philips is developing an approach, presented by Alty van Luijt, which assumes that a user,s presence is represented by the presence of his mobile phone. Accordingly, rights objects stored in the SIM can be transferred to stationary consumer equipment by near-field communication (NFC). Second, „unobtrusive DRM„ which might cover watermarks as well as identification methods was regarded as a promising approach to ease the life of consumers. Forensic watermarks as well as „Light Weight DRM" operate at this level. A forensic watermark is ideally a digital signal marking the copyright owner within a digital media object, hard to detect, hard to attack, and surviving conversion to analogue forms. In contrast digital fingerprints and „signcryption" (as used in LWDRM) identify specific individual users purchasing or delivering a digital object. Even Bruce Perens was in favour of forensic DRM as it does not criminalize consumers beforehand — the mere threat of being potentially detected was assumed to have the desired effects. Third, a new role can be assigned to consumers as part of the distribution and business model coupled with incentives. The corresponding buzzword „superdistribution" was mentioned in practically all presentations. The basic idea behind the word is to combine the free (re)distribution of digital goods by consumers with a mechanism to generate revenue if and only if the new recipient is about to use the good. Rolf Schuster of Vodafone and Willms Buhse, a former Bertelsmann employee now with CoreMedia?, alluded at the new OMA 2 standard (Open Mobile Association) just released and to concrete superdistribution projects underway for mobile music based on OMA.

Categorisation of DRM Approaches

The talk by Rüdiger Grimm, security expert and professor for multimedia applications at TU Ilmenau, offered an interesting categorisation of DRM approaches. He starts from the assumption of an intrinsic dilemma: providers of digital content may claim and define their intellectual property rights, but ultimately they depend on the consumer,s willingness to conform to the rules — as long as the enduser owns his or her computer device. Here is where DRM comes in: the first option to enforce the rights of rightsholders, in other words to make consumers behave compliant with the rules set, is enforcement by technology. In this case users have no choice but to behave as the DRM-system demands (or to crack the protection mechanism). Consumers conform to the rules because they must. That,s what Lawrence Lessig has termed „code as code" and written a book about (Lessig 1999). Second option, consumers adhere to the rules, because they don,t dare to break them, due to the risk of being detected and the disadvantages this might cause. This can be achieved by tracing, tracking and identification technologies. Third, consumers conform to the rules because they want to, due to incentives and advantages they expect, e.g. receiving commissions for attracting new consumers.

Unlawful User Behaviour

Prof. Dr. Ulrich Sieber, director of the Max Planck Institute for Foreign and International Criminal Law, Freiburg, shed light on a special kind of user behaviour, namely unlawful or criminal behaviour. He was very much in favour of a systematic analysis of crime instead of talking of „piracy" in general terms. In addition to a classification of crimes he also proposed to distinguish types of perpetrators (mere private users, hobby-hackers who understand their behaviour as sport, dealers, and organized crime). He also provided some statistical data on lawsuits in Germany: there were 2,727 cases of software piracy, of which 780 were classified as professional and 1.947 as private, referring to 2002; there were 7,311 cases of copyright law infringements, of which only a few were concerned with piracy in the audio sector, and there were 5.902 cases of fraud related to „unauthorized access to communication services". The last figure might be compared with Premiere, the German payTV channel,s complaint about 500.000 illegal users – the number of subscribers being 2.908 million at the end of 2003. Sieber ended his talk identifying shortcomings in current legislation and proposing a reform. Present German legisla-

tion allows the prosecution of infringements aiming at commercial exploitation but leaves too much freedom for private users and hobby hackers. He spoke of „a privilege for private attacks“ on DRMs. There were some critical murmurs to be heard at this stage, but they did not mature to an articulated statement during the debate.

Other Issues

During discussions other issues and open questions came up. To pick up just two of them:

- Werner-Christian Guggemos, an eBook publisher from Munich, complained about providers of DRMs. Available DRM-technology was too limited to the basic usage forms and neglected additional usage forms, hindering user acceptance. The DRMs still lack transparency for users and are still too unstable — which by the way reminds of the early days of e-money schemes on Internet. Small changes of the user,s IT-configuration might render the use of the system impossible. He also criticised that datamining was an inherent feature of many DRM-systems, which many end-users would not appreciate and which again might hinder acceptance.
- One of the most interesting questions put forward was about DRM for ordinary people. The answer from the podium was a reference to the „creative commons license“, which by the way will be launched in Germany in June at the WOZ conference. But I guess that the person raising the question was also thinking of DRMs to be applied by any owner of content, anyone with a homepage and some content to offer to the public. In my view everyman,s DRM is an important but severely neglected topic.

Bottom Line

Less confrontation among players, basic user concerns more widely acknowledged, unobtrusive forensic DRM instead of pre-emptive DRM, superdistribution hot, three ways to make users adhere to rules: by pre-emptive technical measures, by risks of negative consequences, by incentives; four types of perpetrators breaking the rules. Further topics: DRMs solutions neglecting content provider requirements, and DRMs for everyone.

Sources

- Lessig, Lawrence (1999): Code and Other Laws of Cyberspace. New York:. Basic Books (see http://www.code-is-law.org/)
- Home page of „Münchner Kreis“: http://www.muenchner-kreis.de/index_e.htm
- Conference program (in English) http://www.muenchner-kreis.de/eng/040422/Program.htm
- Press release (in German): http://www.muenchner-kreis.de/deut/040422/Presse.pdf
- Video presentations and slides (MS-Media-Player and IE required) http://www.muenchner-kreis.de/deut/040422/Vortraege.htm
- Wizards of OS 3. The Future of the Digital Commons, International Conference, 10-12 June 2004, Berlin: http://wizards-of-os.org

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

Status: first posted 27/05/04; revised for INDICARE Monitor Vol. 1, No 1, 25 June 2004; licensed under Creative Commons

URL: http://indicare.berlecon.de/tiki-read_article.php?articleId=17

Masthead

The INDICARE Monitor is an electronic periodical of the EU-funded project INDICARE being published every last Friday of a month. Articles having passed an internal review process are immediately posted at the INDICARE homepage for public debate. Authors are encouraged to revise their articles in the light of previous discussion before publication in the monthly issue.

There is an e-mail notification service, called INDICARE Newsletter, informing you twice a month about new articles and new issues of the INDICARE Monitor.

- To subscribe to this service simply type in your e-mail address at the INDICARE Website and Go!, or send an empty e-mail to indicare-news-subscribe@indicare.org
- Webpage of the "INDICARE Monitor": http://www.indicare.org/tiki-page.php?pageName=IndicareMonitor
- INDICARE Homepage: http://www.indicare.org/

Editorial Team: The Editorial Team currently consists of *Knud Böhle*, Institute for Technology Assessment and Systems Analysis (ITAS), Karlsruhe, Germany (Editor); *Michael Rader*, also from ITAS (Copy-Editor); *Nicole Dufft*, Berlecon Research GmbH, Berlin, Germany (Co-Editor business); *Natali Helberger*, Institute for Information Law, Amsterdam, The Netherlands (Co-Editor legal), and *Kristóf Kerényi*, SEARCH Laboratory of Budapest University of Technology and Economics (Co-Editor technology).

Editorial policy: The INDICARE Monitor is an English language periodical publishing original works. The editorial policy attempts to be balanced, unbiased, neutral, and non-partisan, not excluding however provocative, pointing and sometimes even lopsiding contributions. Articles are written by INDICARE staff and external experts. The style is intended to be analytical, concise, compact, and written in a language comprehensible for non-experts. The expected length of an article is between 5000 and 10.000 characters. The INDICARE Monitor is available for free.

Acknowledgment: The INDICARE Monitor is an activity of the INDICARE project, which is financially supported as an Accompanying Measure under the eContent Programme of Directorate General Information Society of the European Commission (Reference: EDC - 53042 INDICARE /28609).

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