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Copyright and new content models

Abstract

Not too long ago content delivery models using digital rights management (DRM) technologies were still talked about in conceptual terms. However, a variety of media and content providers now employ aspects of DRM to enable access for users while protecting the rights of copyright owners. Copyright Agency Limited in partnership with authors, publishers and libraries have developed a number of content delivery models using DRM. In this paper, we review the practical applications for digital copyright management and their impact on information professionals. We also review current and future DRM models.

Introduction

Digital Rights Management (DRM) is a term which has been bandied about a great deal in recent times. Broadly speaking, DRM is often used to describe both the concept and practice of protecting and managing copyright material in the digital environment as well as the specific tools which rightsholders employ to content in order to achieve this.

There has been much debate surrounding DRM and its various applications. Debate often focuses on whether DRM tools act more as an inhibitor or as a facilitator for access to content. However, the fact is DRM is a necessary component for those wishing to provide content in a secure digital format and for the management, use, reuse and distribution of their material.

The World Wide Web is used for many purposes including the distribution of free content. Avenues for free content help support a dynamic cultural and educational exchange. However avenues also need to exist for those creators who seek incentive for their creative endeavour through payment for the use of their work.

This paper looks at the development of those content models which provide creators with an opportunity to be remunerated. It looks specifically at the case for and role of DRM in the publishing industry and its need to provide ease of access for consumers with unobtrusive protection measures. It also reviews various applications for DRM currently in use and the plans and issues for future development.

This includes a case study on the efforts made by Australian copyright management company, Copyright Agency Limited (CAL), in developing easy to use digital rights management solutions. CAL represents Australian creators such as authors, publishers and visual artists in the licensing of their material to the general community, enabling them to enjoy a fair return for their work. For companies such as CAL the challenge in the digital environment lies in providing easy access to materials for its varied and large licensed consumer groups such as education and government institutions while protecting the rights of its author and publisher members. CAL is working with both its copyright owner members and with licensees who copy, to develop new DRM models and build online content delivery systems.

Balancing consumer wants and the concerns of content owners

Consumers – market forces

Consumer acceptance of new technologies is a key component to the success of any business model applying DRM. Market research and trends indicate consumers including information managers look for convenience, flexibility and capability in regard to digital technologies and licensing of content in digital forms.

Consumers want the convenience of a one-stop-shop - an online portal which can provide access to multiple publishers, works and parts of works on multiple topics delivered at 'web-speed'. They want online and web-based access to information, content, rights clearance and subscriptions.

Publishers are also under increasing pressure, from a fragmented market to develop niche products and services. In addition, specialised markets want to purchase content in granular segments to suit their individual needs. Digital granular segments are also attractive to certain consumers whose level of use is irregular and insufficient to justify a full purchase of a book or subscription to a journal. PDFs, digital books and e-journals can provide this desired granularity and a means to market entire creative works as a whole or in separate parts as chapters and articles.

Most consumers wish to comply with copyright legislation and licensing arrangements. Surveys conducted by international rightsholder bodies such as the International Federation for Reprographic Rights Organisations and individual copyright management companies over the last six years have generally shown an acceptance by consumers of the need to pay for digital use of copyright protected works. Growth in e-commerce as shown by the music downloading industry also suggests consumers are now more willing to pay for content online. A recent Nielsen Bookscan survey also stated about 32% of online shoppers in Australia have bought a book online, and half of these more than once. The market for fully fledged online delivery is reliant on the development of document delivery systems, services and digital rights management online which provide adequate security and compliance measures for copyright owners' works.

Content owners (rightsholders)

Under the Australian *Copyright Act 1968* copyright owners have exclusive rights over the copying and communication of

their material subject to certain exceptions. Copyright owners have the right to reproduce (copy) material and communicate (distribute) material. In the digital environment, reproduction rights include the printing and saving of digital material such as a computer graphic, website text or newspaper article. Digital communication rights include emailing or web hosting of digital material.

The management of these rights are constantly challenged as new technology brings new uses. In the digital age, new ways to use and transmit content are discovered and quickly become prolific amongst consumer groups. Works can now be 'stored' by consumers such as in repositories or by caching. With new technologies such as the iPod and ebook readers, storage can take on a whole new meaning as individuals develop their own digital libraries. Then there is the issue and opportunity provided by 'superdistribution' where works can be distributed, 'downstreamed' and read by many.

Many consumers believe because information is available electronically it is free or there is a licence to use it. As a result many rightsholders are still wary of this free access culture which has characterised consumer behaviour on the World Wide Web. Just as it provides a valuable channel for access to original works, the internet can be a threat to those who create and produce works without sufficient security and control to obtain a financial reward for their creativity and investment.

The role of DRM

To address the threat of uncontrolled and widespread copying destroying the markets for their work many rightsholders wish to use Digital Rights Management (DRM) systems, especially if they function efficiently and are accepted by consumers. DRMs have two main functions: to identify and describe the digital rights and ownership of a work, and ensure the work is used in accordance with the terms and conditions set by the rightsholders through technological protection measures. Technological protection measures (TPMs) have two purposes: control and access; and tracking and transactional measures.

Digitisation of copyright materials can threaten the marketability of copyright owners' works. It allows high volume networked communication and reproduction to take place in a way which does not degrade the quality of the copied content received by the consumer. Control and access measures offer a stopgap to remedy the market failure of uncontrolled digital communication. Control and access TPMs maintain the balance between supply and demand and restore control in the delivery chain.

Broadly, content control mechanisms seek to either control access to content by means of encryption, scrambling or passwords or to control what can be done with the content once access has been granted. For example TPMs place control on the number of times a work can be viewed, printed or downloaded. TPMs may contain a copy-safe mechanism, allowing a file to be viewed only and preventing it from being reproduced. Traditionally these DRM

tools can be implemented using software. However, some new DRM applications specifically in the audio-visual market integrate DRM into hardware. For example, a consumer will only be able to access or copy a work if their PC is part of a 'verified' network.

It is important to note that rightholders also want to use DRM in another way: to facilitate legitimate access to their works. Rightsholders want to use DRM to conduct transactions for access to content online. Metadata including standard identification, price, terms and conditions, support ecommerce models for content online and for print on demand.

Rightsholders and consumers also want to reduce transaction, production and distribution costs through DRM. DRM offers cost efficiencies and consequently savings for the consumer by supplying a virtual supply chain online, matching consumer demand directly with supply of content.

Licensing requirements

DRM makes possible new ways of accessing copyright content that are complementary to the traditional book sale and journal subscription model. Access to content online is a rights transaction. Once a work is accessed it is frequently repurposed and re-communicated downstream. This 'superdistribution' can be more valuable than the original sale of a work. Consequently, where the preponderant value of the work is in its reuse through intranets, a rights management system is vital.

Many rightsholders wish to license their works directly on an individual basis:

one to many. Rightsholders also wish to offer transactional licences for access and use of individual works through e-commerce models. They want to offer real-time access, processing and purchasing which also manages to capture market data. It appears most rightsholders want to work with copyright management companies and agencies in developing these models but only if they are commercially competitive and provide consumers with attractive e-commerce services.

DRM applications – content models

Existing models

Investment and innovation in the Information Technology industries has enabled widespread wireless network access to the World Wide Web and continuous improvement in online systems for supply of granular content online.

The convergence of communication and copying devices in the digital information technology infrastructure and the consequent convergence of media in creation, production and distribution of content are characteristic of the digital information age. Convergence has affected the publishing and content industries profoundly for one powerful reason: e-commerce for multi-media content including books and journals is one of the very few types of transaction that can be performed entirely online: search, locate, browse, order, pay for and receive the content, all online.

The ability to use online channels so well suited to creating, producing, marketing and distributing creative

content to efficiently expand the creative industries is very appealing. However, unlike business to business delivery channels, business to consumer models are not yet mature. Good progress is being made in the technical access, authorisation and encryption areas, but those systems are not sufficiently secure yet for large scale, high volume, business to consumer supply of high value content online. There are however a few notable exceptions.

Most digital publishers offer clients access to materials using one or more of the following methods:

- Publisher/author access – where individual publishers and authors license rights straight to business consumers;
- By subscription where the client has access to the digital version via an online portal and password;
- By pay-per-view where the client pays for one article of their choice; and
- Through a database or ‘online digital repository’ where the consumer has a choice of many thousands of digital works.

Most consumers seek access to online material through direct delivery which involves consumers entering into a licence for the provision and use of digital materials directly with a publisher or content provider. However aggregator services and e-libraries are also becoming popular document delivery channels in the digital environment.

An aggregator is a company or service which collects content from a variety of sources, rather than offering the

repertoire of one publisher or author. Aggregator services are offered by companies such as *ProQuest* and *Ebsco*. These types of services are in demand in both educational and professional publishing. Aggregators distribute royalties to the copyright owner by either:

- Charging consumer access through an annual fee and then passing on payment for every usage of the content; or
- Providing free consumer access but then running on a pay-per-view model. The aggregator then passes on a part of the fee to the copyright owner.

Along these lines Microsoft has partnered with a number of scientific publications to develop an online licensing solution for journal articles. This model provides consumers with access to a full text article in its database where the consumer has an existing licence with the journal to which the article belongs, or by referring the consumer to the publisher to purchase the article directly.

New market entrants

There have been a number of new market entrants in the area of content delivery. The most notable and controversial being the search engine. Yahoo, Amazon and Google have all recently developed or announced digitisation schemes to develop content repositories allowing consumers to search and access extracts of works online.

While these new market entrants offer rightsholders an opportunity to reach a greater number of consumers, they also tend to raise a number of copyright

issues. Google's Google Print Library project in particular has attracted the ire of publishers and authors alike due to its digitisation initiatives. Internationally they have been criticised and are facing litigation for their practice of digitising works without actively seeking the consent of the copyright owner. The Google Print Library project allows consumers to search for and access extracts from titles under copyright. The main issue for creators is the fact Google uses copyright protected materials without the permission of copyright holders for their own profit, through advertising sales on their site.

Many publishers are beginning to see the need to develop their own digital strategy in response. HarperCollins Publishers in the US announced they plan to digitise over 20,000 of their own titles to enable consumers to scan a limited number of pages to gauge their interest in a book. Some publishers are also partnering with technology companies to further develop their own digital content models. For example, Reed Elsevier has announced a partnership with Microsoft as part of its online strategy.

Emerging licensing models

Online licence schemes are an efficient avenue for permission-based access to content in the digital environment for both information managers and consumers. Models and initiatives derived from 'free access' and 'free education' movements such as ASharenet and Creative Commons for instance provide many academics and creators with a valid option in providing their works for free and at differing levels of access and reuse. The incentive for those creators and

academics choosing this type of licensing scheme usually comes in the shape of academic recognition and career advancement. For consumers, the benefit naturally lies in the ability to access education materials and articles free of charge. However, for writers and publishers who intend to make a living from their material, these models are not an ideal solution.

Creators have the fundamental right to choose the terms and conditions for use of their material. They also have a right to decide on whether they wish to be rewarded for their creative endeavour through payment or other means. The fact is, the more content delivery channels available, the greater the diversity of materials accessible to the public.

Most rightsholders choose to license their work through a variety of channels on a non-exclusive basis. However, while many individual publishing and licensing solutions are quickly gaining momentum, licensing through a copyright management company is generally the preferred solution when licensing copying and communication of content on a mass scale. Centralised rights management is more effective than individual rights management for consumers who wish to aggregate many works and segments of works like articles or chapters from a variety of diverse sources. This applies especially when consumers wish not only to access the works but require licences to re-use or redistribute, downstream or 'to intranet' the aggregated works to others within or outside their organisation: 'superdistribution'.

Role of copyright management companies

The key for copyright management companies is to apply the experience gained through traditional collective management gained in the hardcopy photocopying environment to licensing and management of digital copying and communication use. Through their relationships with copyright owners, consumers and governments, copyright management companies have already developed a harmonised international distribution system for the cross border transfer of rights and distribution payments.

They have also invested in building interoperable technological infrastructure such as databases of rights information relevant to the various aspects of copyright licensing. Those databases can allow instant access to information regarding the licensing of works and content and also assist in payment options and distributing payments to copyright owners for new uses of their works within the digital environment.

Another key issue for DRM relates to interoperability and standards building for DRM tools. The problem many consumers face online is the differing and in some cases incompatibility of DRM tools. Copyright management companies can assist in providing a centralised rights management service. It is likely they will need to act on specific mandates from rightsholders and continue the role of intermediary – assisting rightsholders to make their content available to consumers and serving consumers by providing seamless access to digital content. In doing this, copyright management

companies will need to play a varied role by establishing universal identifier systems and interoperable rights metadata standards for content. This will help to provide the infrastructure for global interoperable e-commerce and online delivery of content.

Copyright management companies may also work as a portal or aggregator service by directing consumers to rightsholders' own sites so that rightsholders can, if they prefer, license their work directly with the consumer.

Building a digital rights management model will take time and currently we are at a nascent stage. It is also unclear whether the complete rights management process can be fully digitally automated. A transaction for digital content is a rights transaction, and computers would have to be very sophisticated to be able to read semantically and to interpret the myriad of possible identities of the parties, works, types of uses and transactions that web-level online trading in content requires.

However, work on such a model has begun. Copyright management companies from around the world are working together to develop a common rights management infrastructure with the aim to allow consumers a one-stop shop for a large variety of rightsholders' works and excerpts from works.

To intermediate and meet rightsholder and consumer demands, the key components of any new common rights management model acting as a one-stop-shop will need to provide:

- Standards-based metadata which allows identification of the work and

rightsholders, and provides a description of the rights;

- on-line licensing mechanisms;
- web-based access;
- an efficient search system;
- on-line content delivery;
- an ability to capture detailed information on the use of content;
- more transactional invoicing; and
- more transactional payments to rightsholders.

Case study: Copyright Agency Limited (CAL)

The first step in developing a common rights management infrastructure involves piloting different approaches to delivering digital content for select markets. Copyright Agency Limited (CAL), a member-based not for profit company, has approached the digital challenge by taking an active role in building infrastructure and developing new content models for the Australian and international market. This has included supporting the adoption of the Digital Object Identifier – standards-based metadata tagged to digital content to enable online rights management.

CAL has used a partnership approach with publishers and consumer groups to facilitate transactional online e-commerce for granular content. CAL's offerings provide access to content from participating publishers with rights management for valuable systematic downstream uses. The access and the rights management are performed in the one transaction. While the process is specialised and streamlined, the terms and conditions of access and use are set by the individual publishers.

CAL has developed and is piloting a business model for the academic market known as Digital Course Materials (DCM). It is based on principles of publisher-set terms and conditions, interoperability across the Internet and it is applicable to different media. It uses Digital Object Identifier technology, common file formats for granular content, and DRM. The model is supported by contractual Business to Business (B2B) relationships.

The systems and processes developed provide publishers with additional channels for content which are complementary to primary sales channels. Consumers (course providers) can search, browse and access content online including segments of work from various publishers. The content is provided at different levels of 'granularity' such as chapters and articles to allow course providers to aggregate packets of course materials for students. CAL develops and maintains the relationships with participants in the value chain to ensure interoperability and streamline the payment, production and delivery process. The same infrastructure can be used to provide efficient access to materials, made available by authors and publishers for free.

Conclusion

Developing DRM tools and content delivery models which address the needs of the consumer and the concerns of the copyright owner is no

easy task. Technology giants such as Apple, Microsoft, Sony and Adobe for instance have all experienced hurdles in the development of their own DRM solutions. It will take time in building and testing new ways of access and delivery. Ultimately, the aim is to provide access to quality content for the consumer and a viable choice in a secure content delivery channel for creators seeking payment for the use of their works.

New technologies offer consumers greater access and use of works, and for the rightsholder they offer an unprecedented opportunity for improving rights management systems and processes. Generic international standards need to be established to provide certainty and interoperability for both consumers and rightsholders. The aim for any rightsholder, and conversely for copyright management companies, is to provide a seamless transaction for the consumer.

DRM tools and technological protection measures can be harnessed to open up new channels for consumers and new markets for all creators – from the individual author to the large multinational publisher. Rightly managed, this will form a social infrastructure which will encourage more people to participate in creating and communicating original works. More works mean a greater pool of quality material made available for today's information professionals and the wider community.