



# **P2P Makeover: Showtime for DRM?**

## **A Parks Associates White Paper**

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## 1.0 Piracy Overhang

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“The Motion Picture Association of America (MPAA) and its international counterpart, the Motion Picture Association (MPA), estimate that the U.S. motion picture industry loses in excess of \$3 billion annually in potential worldwide revenue due to piracy. Due to the difficulty in calculating Internet piracy losses, these figures are NOT currently included in the overall loss estimates. However, it is safe to assume Internet losses cause untold additional damages to the industry.” --MPAA

“Within the Internet culture of unlicensed use, theft of intellectual property is rampant. The music business and its artists are the biggest victims, and ultimately consumers suffer also. Unauthorized Internet music archive sites (using multiple formats, such as .wav files, or MP3 files) provide illegal sound recordings online to anyone with a personal computer. Music can be downloaded and played indefinitely, without authorization of or compensation to the artists. Other music pirates use the Internet to peddle illegal CDs.”

--Recording Industry Association of America (RIAA)

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Digital piracy is content creators' and providers' migraine. The “analog hole” allows consumers to record digital content displayed on analog output devices. CD and DVD ripping software creates the “digital hole” that enables ripped digital content to be freely distributed online and offline. And online Peer-to-Peer (P2P) networks are one of the safe havens in which consumers can trade illegal content. The content industry has scrambled for solutions to ameliorate the situation. Pursuing legal actions is one approach. The industry has been targeting not only organizations but also individuals for piracy violations. More aggressively, it is currently suing, under the 1998 Digital Millennium Copyright Act, developers of P2P technologies that can be used to circumvent copy protection (e.g., the *MGM vs. Grokster* case).

Although this litigation may in some part stem the use of illicit file sharing services, it has not generated an overwhelmingly positive sentiment from consumers, who tend to regard content

owners as greedy, abusive, and obstructive. To be fair to consumers, a significant amount of illegal copying is conducted by those who either don't know that such activities are illegal or firmly believe that their "fair use" rights give them the permission.

The content industry is re-mapping its strategies as it comes to the realization that lawsuits alone won't plug the piracy holes. It is engaging technology providers to develop new content protection technologies and digital rights management (DRM) solutions. The goal is to induce consumers to accept DRMed content.

## **2.0 DRM for P2P: A Good Fit**

The content industry lays down two ground rules: 1) Consumers should be satisfied with a solution that affords them an acceptable degree of freedom in copying, storing, and distributing digital content; and 2) the interests of content owners must be protected by a solution that can significantly curtail casual piracy activities. DRM solutions can fulfill both requirements.

### **2.1 Deciphering DRM**

DRM goes beyond what content protection can do. While both technologies can protect content, DRM solutions can give content owners control of ownership and distribution on their terms. For example, online movie providers can offer consumers a 24-hour download window within which consumers can access and view the movie multiple times after they pay for it. DRM can provide consumers with other options, such as a 48-hour viewing right, a movie download and burn right, or a monthly subscription right (pay a monthly fee for accessing unlimited content, own content as long as continuing to subscribe), etc. Although content owners developed the rules, these rights do give consumers a certain degree of flexibility for media consumption. On the other hand, content owners cannot ignore consumers' needs and expectations when drafting these rules. In order to drive demand for their media content, they must sort out what constitutes a fair right to consumers. Excessive restrictions only lead to suppression of market demand. Apple has struck a good balance in this regard. Its Fairplay DRM grants consumers playback rights on up to five computers, unlimited synch to iPod, and unlimited burning to physical media. Consumers

seem satisfied with these rights, as the number of music downloads at its iTunes online store has topped 300 million since the service's inception in 2002.

<b>Company Name</b>	<b>DRM solution</b>	<b>Content partners/System Partners</b>
Microsoft	Windows DRM	BMG, EMI, Buymusic, CinemaNow, Movielink, Music Now, LionGate, Warner Music, Sony Music, Universal Music, etc.
RealNetworks	Helix DRM	ABC News, Avid, CNN, NASCAR, Starz Encore
Sony	Open MG	Proprietary
Apple	Fairplay DRM	Proprietary
Macrovision*	Broad CD/DVD copy protection technologies	Major movie studios, recording, and game companies and publishers, cable and satellite operators
First 4 Internet*	XCP CD copy-protection technologies	Sony BMG, Warner Music, Universal Music, EMI Music
SunnComm*	MediaMax Technologies	Sony BMG, Universal Music

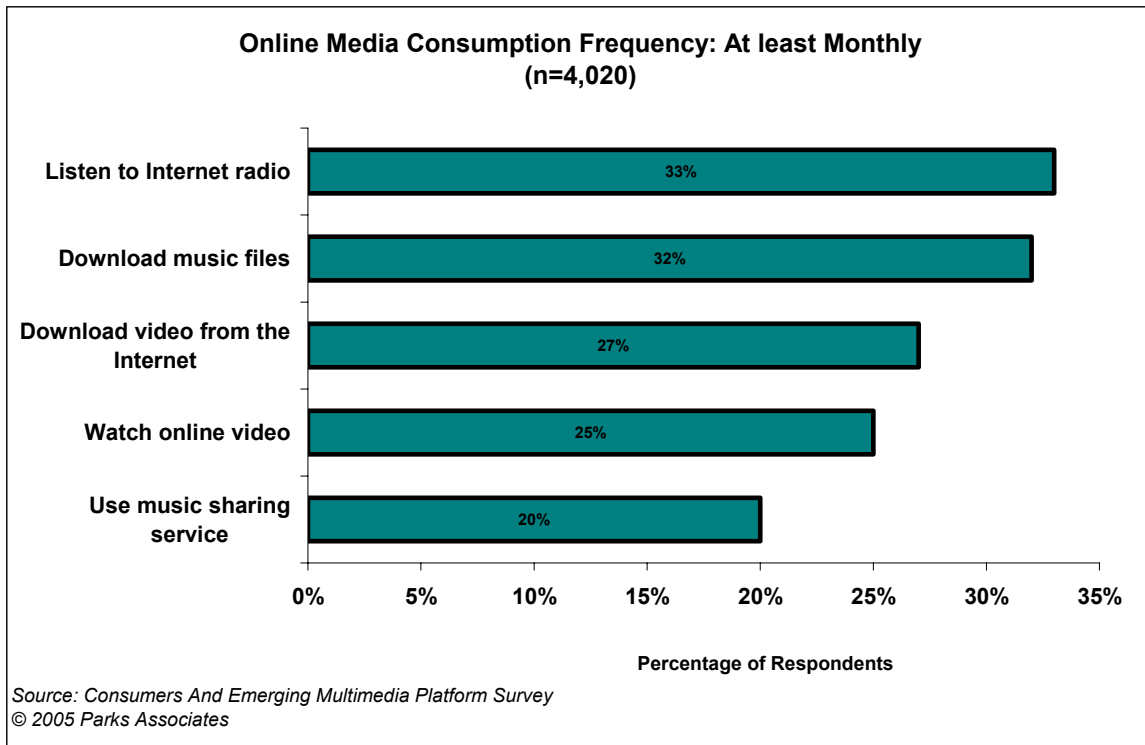
**Figure 1: Major DRM Vendors**

\* They provide copy protection technology with rights control functions and are negotiating with DRM vendors for support on portable rights.

## **2.2 Double-faced P2P Networks**

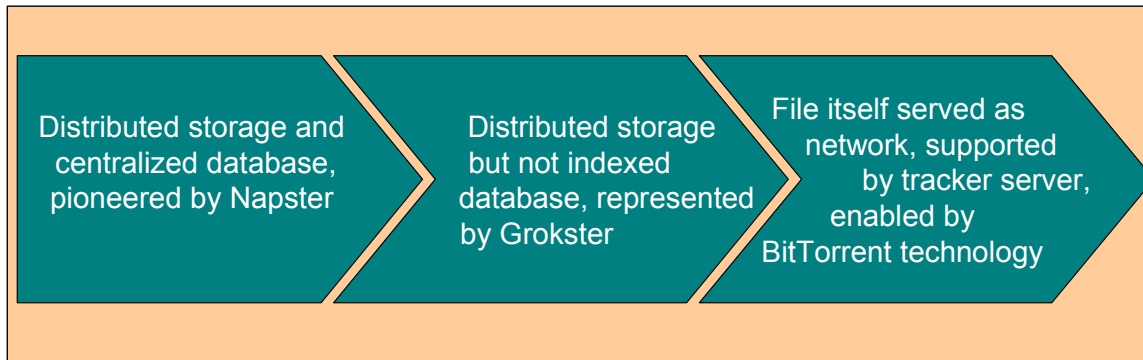
P2P technologies allow a network user to locate and retrieve files in other network users' hard drives. Peer-to-peer file sharing is very popular among consumers. Parks Associates' consumer research found that 20% of U.S. online households use music sharing services such as KaZaA at

least monthly. It is also a global phenomenon: millions of people worldwide access P2P networks on a daily basis.



**Figure 2: Consumers' Use of Online Media and Services**

Initially, P2P network operators maintained a centralized and indexed database that directed users to the place where files were stored. But in the post-Napster era, new file sharing technologies allow users to search files without the help of an indexed database. Many high-profile P2P network services, such as KaZaA and eDonkey, are using these types of technologies. Recently, a new technology for swapping large files has gained significant popularity. Called BitTorrent, the tool improves the current P2P technologies and solves the problem of bandwidth bottleneck when a large file is in high demand for download. It works by breaking a large file into smaller parts and searching for the most efficient download. In this way, instead of everyone trying to download from one hosting server, users can download the available parts from one another at the best connection speed, resulting in a more efficient use of network bandwidth and faster download for everybody.



**Figure 3: Evolving P2P File Sharing Technologies**

A P2P network’s popularity lies in its ability to disseminate information efficiently and cost effectively across the Internet. With BitTorrent technology, even large files (such as movies and TV shows) can be distributed with ease. Although many consumers use P2P networks to illegally trade copyrighted materials, P2P technologies have many legitimate uses such as communicating scientific research outcomes, promoting public education, encouraging production of independent art works, etc. There are a number of legitimate P2P networks that support business-to-business (B2B) communications and information sharing. But for premium content distribution to consumers, most current P2P networks are underground illegal file sharing services.

## 2.3 Show Me the Benefits

Content owners are aware of P2P technologies’ potential power and have mixed feelings about it. On one hand, they are concerned that piracy through P2P networks has cost and will continue to cost them billions of dollars in lost revenues. On the other hand, the marketing power of peer-to-peer communications and the cost savings through P2P distribution are very appealing to them.

In practice, content owners still rely heavily on retail channels for content distribution. But they understand that over the long run, the Internet has the potential to dominate content distribution, and P2P networks might become the most popular distribution channels on the Internet.

Determined not to miss out on such an opportunity, content owners are experimenting with P2P technologies for their own sake. The best outcome, they hope, is to convert illegal P2P networks

to ones that enforce content protection. DRM, with its capability to define, carry, renew, and revoke rights of content, is an ideal content protection technology for P2P distribution.

To illustrate, John pays and downloads DRM protected movie *Alexandra* from the Internet, and he can make it available to P2P network users. Anyone on the network can retrieve the content, but an attempt to watch it will lead him or her to a license server, where he or she can pay and watch it based on the desired terms. A preview right can be attached to the movie during John's download, so his hard drive "visitors" on the networks can watch the preview for free before they determine whether to pay for it.

Benefits of such a distribution are obvious. This type of self-directed marketing can reduce the distribution cost significantly if the size of P2P users is sufficiently large. Content owners will also receive incremental revenues by extending sales opportunities to consumers they otherwise might not be able to get via conventional distribution channels. Last but not least, a secured Internet content distribution environment will persuade content owners to upload more premium content onto the Internet. As a result, consumers will benefit from a bigger pool of content, flexible viewing rights, and perhaps even lowered cost if content owners are willing to pass some of the distribution savings to consumers.

## **3.0 P2P Makeover: Implementing DRM**

### **3.1 Content Owners' "Duo-Core" Strategy**

Content owners' strategy for making over P2P networks consists of two tactics: punish perpetrators, and cultivate legitimate P2P file sharing businesses.

At present, they spend the majority of their efforts on piracy litigations in a bid to either force illegal file trading services out of business or discourage potential new entrants. They have targeted not only organizations, but also individuals who host the hubs for P2P networks or heavily use illegal services. Some of their efforts have paid off. For instance, several P2P hosting servers such as SuprNova and Youceff.com were forced to shut down, and DVD copy software companies, such as 321 Studio, were outlawed. But there were also setbacks. Legal efforts to

“de-list” Grokster, a file sharing technology vendor, were rebuked twice-- first in a Federal court in April, 2003, and then in the Ninth Circuit Court of Appeals in August, 2004. The U.S. Supreme Court is hearing this case, and the outcome is unpredictable at this point.

We also see efforts from content owners to grow legitimate P2P file sharing services from the ground up. For instance, content owners have endorsed Macrovision’s Hawkeye service, which is touted as a global anti-piracy service to compete against illegal P2P networks. They also approve of Wurld Media’s Peer Impact service, which distributes licensed music to users and allows them to forward to other people, but forbids unrestricted file swapping. Although these efforts are sporadic and business models are still in their infancy, we believe content providers should increase their support for the legitimate use of P2P networks. They might significantly step up their support if they fail to win over the Supreme Court on the Grokster case later this year.

## **3.2 Uncertainties and Roadblocks**

DRM-enabled legitimate P2P file sharing services face many uncertainties and roadblocks ahead.

One uncertainty is whether consumers will be successfully persuaded to use P2P networks with DRM-protected content. DRM is clearly a content owners’ solution to piracy that requires consumers’ cooperation to be effective. What will motivate individual users to voluntarily forward content to their friends and families, knowing that the forwarded content is not free? What scope of rights is adequate to satisfy consumers? And will DRM provide a smooth experience for P2P service users and their intended recipients? Both content providers and legal P2P networks must answer these questions.

On the business side, legal P2P networks must find viable revenue models for their survival and growth. How will legal P2P networks get paid for their distribution services? Currently, many illegal file-sharing services get paid either by advertising revenues (bundling ads to free software download) or by software users’ license revenue (ad-free but paid software download). For both sources, the number of users is the key to a file sharing service’s financial viability. Without free

content, legal P2P networks are clearly at a disadvantage - in competing with illegal P2Ps for network traffic and active users. Will content owners be willing to provide seed capital or offer revenue-sharing deals to legal P2P networks? A realistic and fair solution for both parties seems to be sharing the distribution cost saved. But what is a fair split? It is still up for both sides to determine through negotiations.

Finally, there is the issue of DRM interoperability, which must be sorted out by DRM vendors themselves. Disparate DRM schemes create a frustrating consumer experience that can result in a negative attitude toward DRMed content distribution. The online music industry has set a bad precedent, and we hope that content distributors over the legal P2P networks can draw a lesson from it. The DRM industry is starting to work on interoperability standards, which is an encouraging development for the legal P2P community.

### **3.3 What's Ahead?**

We believe the Supreme Court's verdict in the Grokster case will have a major impact on the content industry's anti-piracy strategy going forward. If the Supreme Court's verdict supports the lower courts' conclusions, content owners will have to shift gears to promote legal P2P networks and consider ways to force illicit P2P networks out of business through fair business competition instead of legal actions. On the other hand, if the Supreme Court overturns the lower courts' decisions and orders illegal P2P networks to curtail copyright infringing activities, it will be a significant win for copyright owners and the content protection community. The Supreme Court is unlikely to completely overturn its verdict on the 1984 Betamax case, because such a fundamental change will swing the balance completely toward copyright owners and unnerve too many parties.

Whatever the outcome, it seems inevitable, and thus imperative, that the content industry leverage existing DRM solutions for content distribution over the P2P networks. In our view, the content industry hasn't done enough to support legitimate P2P networks. Over time, it must invest more in consumer education and shore up support for the legitimate use of P2P networks for content distribution.

The DRM community will work out details of DRM interoperability standards for interface, identity, rights expression, file format, Codec, etc. Such standards will boost the chance of legal P2P networks' commercial success.

## 4.0 Conclusion

We believe that content owners can use DRM tools to transform P2P networks for their advantage. A successful makeover will not only eliminate an essential market for illegal contents, but also unleash the full power of the Internet as a means for efficient content distribution and incremental revenue generation. It is a win-win for DRM vendors and content owners. And ultimately, consumers will benefit from lowered content costs, abundant supply of premium content, and a true “anywhere, anytime” consumption experience.

**About the Report:** *Digital Rights: Content Ownership and Distribution* provides an in-depth look at the significant issues, technologies, and players in the digital rights management (DRM) industry. It analyzes different stakeholders' interests, reviews a variety of technologies, discusses current DRM-enabled content distribution models, and provides insights about future DRM adoption trends. Moreover, the report profiles key players in the DRM industry and features consumer data from several recently completed primary studies conducted by Parks Associates.

**About Parks Associates:** Parks Associates is a market research and consulting firm focused on all product and service segments that are “digital” or provide connectivity within the home. The company's expertise includes home networks, digital entertainment, consumer electronics, broadband and Internet services, and home systems.

Founded in 1986, Parks Associates creates research capital for companies ranging from Fortune 500 to small start-ups through market reports, multiclient studies, consumer research, workshops, and custom-tailored client solutions. Parks Associates also hosts two executive seminars, both part of the Fall Focus series, and co-hosts CONNECTIONS™ (in partnership with the Consumer Electronics Association) each year. [www.parksassociates.com](http://www.parksassociates.com).