FEDERAL TRADE COMMISSION (FTC)
Peer-to-Peer File-Sharing Technology: Consumer Protection and Competition Issues

DISTRIBUTING COMPUTING INDUSTRY ASSOCIATION (DCIA)
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Comments

A. Use of P2P File-Sharing Technology

1. What are the differences between P2P file-sharing technologies and technologies that use central server or other models?

Peer-to-peer (P2P) file-sharing technologies differ from others in that they support the decentralized discovery and delivery of content from published directories, or shared folders, posted on networked devices interconnected by means of compatible software programs. Technologies that use central servers require end-users to access their databases first to search for content and then to download it. By eliminating the needs for centralized indices and storage capacity for content, P2P technology allows for faster file transfers and conserves bandwidth. It also supports a vastly greater participant universe than does a centralized architecture, and is capable of scaling to ever-increasing content inventories without adding costs to content providers, distributors, or consumers.

2. What are the different models of P2P file-sharing technology? Please describe the differences between the models and the applications that use each model.

The different models of current P2P file-sharing technology are based on their assignments of certain functionality to participating interconnected computing devices and their treatment of individual files. These include various uses or non-use of "super-nodes" and transfer of files either intact or by "swarming." Super-nodes are participating computers that may, either on a permanently or a temporarily assigned basis, with selection to perform this function generally determined by their storage capacity and/or connection speed, aggregate lists of published files and/or files themselves, transferred from adjacent participating computers, to facilitate more efficient redistribution. Swarming refers to the breaking of files into smaller components, which are then downloaded simultaneously from multiple participating computers, also for increased efficiency of redistribution.

3. Who uses P2P file-sharing technology or programs? What proportion of users are children, teenagers or college students? Are these proportions likely to change with the development of future uses of P2P file-sharing technology?

P2P file-sharing programs are the most popular Internet-based software program, having been downloaded nearly 700 million times, easily eclipsing instant messaging (IM), the previous most rapidly deployed and broadly accepted web-based software application. Typically, a cumulative universe of 80 million users access P2P file-sharing programs monthly, with peak users reaching as many as 10 million concurrently. Currently, according to Parks Associates: the ages of P2P heads-of-households are 18-24 29%, 25-34 37%, 35-44 23%, 45-54 8%, and 55+ 2%; annual incomes are under $50K 47%, $50-75K 27%, $75-100K 13%, and over $100K 6%; among Internet users, reported frequency of P2P usage is never 68%, less than once a month 12%, 1-3 times a month 8%, 1-3 times a week 7%, and daily / almost daily 5%. These proportions are likely to more closely reflect the general population as broadband penetration increases and the P2P distribution channel becomes fully licensed for mainstream entertainment content and accepted as a mass medium.

4. What must consumers do to uninstall P2P file-sharing software programs? Are there P2P file-sharing programs that are more difficult to uninstall than others?

Leading commercial P2P file-sharing applications can be easily uninstalled in the same manner as other major established software programs, typically by accessing the "add/remove" feature provided for such purposes by the personal computer's operating system. There are certain variances among P2P software providers, primarily based on their selection of affiliate programs, such as bundled applications which, based upon notification and consent, serve ads in exchange for allowing use of the P2P software at no charge. Certain affiliated programs

need to be uninstalled separately from the P2P software program itself, and these typically can also be accessed by means of the standard "add/remove" feature offered by the operating system provider.

B. The Role of P2P File-Sharing Technology in the Economy

1. What are the current commercial, scientific, and/or industrial uses for P2P file-sharing technology?

Current commercial uses of P2P file-sharing technology include licensed distribution of games, movies, music, and software. All twelve major games publishers distribute their games by means of P2P, having achieved more than 200 million downloads. Independent studios, labels, and artists license their copyrighted movies and music for P2P distribution, not only for promotional purposes, but increasingly also for sale, availing themselves of digital rights management (DRM) and payment services solutions. At an average of more than 50 million transactions per month, P2P has become the largest distributor of authorized content on the Internet. Scientific uses include marrying P2P file-sharing technology with cycle-sharing, in order to conduct data processing functions for such purposes as applied mathematics and medical research. Industrial uses also include collaborative project management and voice-over-Internet-protocol (VoIP) telecommunications.

2. Can current P2P file-sharing technology enhance business and industrial efficiency? If so, how? How are the benefits different from those available under a central server model?

Current P2P file-sharing technology enhances business and industrial efficiency by eliminating the need to house data in centralized servers, thus saving on storage, maintenance, and energy costs. With integrated VoIP applications, it can also reduce telecommunications costs, particularly for long-distance calls. These benefits are not available, by definition, under central server models.

3. What are the future commercial, scientific, and/or industrial uses for P2P file-sharing technology?

We have barely scratched the surface on the uses of P2P file-sharing and related distributed computing technologies for future commercial, scientific, and industrial uses. P2P has the potential to become the largest, most cost-effective, and greatest-inventoried distribution channel for entertainment and information content, including games, movies, music, and software. Distributed project management of complex business and research tasks, including unprecedented processing and file transfer capacity as well as enormously scalable storage capacities – without the costs associated with mainframe computers – augur well for P2P file-sharing technology to continue its aggressive adoption rate and multi-dimensioned expansion.

4. How will these future uses of P2P file-sharing technology enhance business and industrial efficiency? How are these benefits different from those that would be available under a central server model?

These future uses of P2P file-sharing technology will continue to reduce costs of storage, processing, and data transfer. They will increase the speed and efficiency of many computing and telecommunications tasks and functions. They will protect institutions against "hacks" by distributing vital information across a network of interconnected devices that can more readily be protected than would be possible using centralized server architecture.

5. If P2P file-sharing technology will enhance business and industrial efficiency, what effect will that have on the nature and extent of competition in the economy?

P2P file-sharing technology and related distributing computing applications will make larger companies more efficient and therefore help them be more competitive, and help smaller enterprises be able to afford to operate, which they could not do with older centralized architectures.

6. What are the current business models for P2P file-sharing software companies? What are the anticipated business models for the future?

The primary business model for P2P file-sharing companies currently is not the most attractive one for the future. Typically now, P2P software providers generate revenue by licensing their software to consumers, and more frequently by offering it at no charge in exchange for delivery of advertising through bundled adware. Revenue is larger for providers whose software is used by many consumers, but is not dependent on the

volume of files shared, much less on whether such files are unlicensed copyrighted works or fully authorized files. If a user simply opens P2P ad-supported software and keeps it open while surfing the Web, sharing no files at all, he or she will be served occasional targeted ads, and revenue will be generated for the P2P software provider. If he or she shares a million files, the revenue generated by the ads will be no different. In the future, P2P software providers generally would prefer to have a licensed-content-distribution revenue-sharing business model, which can afford them the opportunity to monetize their traffic at exponentially higher multiples than their current effective transaction rates based on the adware model.

7. What is the likely future competitive and/or economic impact of P2P file-sharing technology across the economy as the technology improves (speed, amount of data that can be cost effectively transmitted, etc.) and as the number and variety of P2P file-sharing applications expand over time? Which industries will be most likely affected? How will they be affected? How will P2P file-sharing technology change competition in affected industries in the future?

The likely future competitive impact of P2P file-sharing technology across the economy as efficiency improvements continue and additional differentiated P2P software programs proliferate will be to dramatically increase the selection of entertainment content options beyond what has been available in the past as a function of infrastructure cost limitations, and to offer consumers more attractive pricing reflective of their contributions of shelf-space and redistribution costs. Games, movies, music, and software industries will be affected by this by having a new larger and more efficient distribution channel than previously.

8. To what extent does P2P file-sharing technology have the promise to impact the manufacture, inventorying, and delivery of goods and services?

P2P file-sharing technology has the promise to impact the manufacture, inventorying, and delivery of digital goods and services by helping reduce the threshold for economic viability of individual units and extending their shelf life. P2P contributes to lower effective unit-costs for bringing digital products to market.

C. Identification of P2P File-Sharing Software Program Risks

1. What are the risks to consumers caused by the downloading and use of P2P file-sharing software?

Risks to consumers caused by the downloading and use of P2P file-sharing software are generally no greater than those encountered by surfing the Internet and, thanks to self-regulatory actions, in certain cases are now less. The nascent distributed computing industry has been proactive in addressing risks to consumers, seeking to set higher standards than those of predecessor technologies. The Consumer Disclosures Working Group (CDWG) was formed in June 2004 by leading P2P software developers and distributors to identify risks to consumers associated with P2P file-sharing software, develop an effective standardized disclosure regime to clearly and conspicuously communicate those risks, and encourage competitive responses to mitigate or eliminate them. The CDWG identified five risks: copyright infringement, data security, pornography, spyware, and viruses.

2. Does the use of P2P file-sharing software pose a security risk to the personal information of consumers? If so, what is the nature and extent of this risk? Can consumers avoid this risk? Is this risk different from the risk that a central server model or other models pose? If so, how?

The data security risk posed by P2P file-sharing software is that it allows any user to access files consumers place or move into their shared folders. If they're not careful, files containing personal and confidential information could inadvertently be uploaded for distribution on the Internet. This could cause a number of problems, including identity theft. In order to address this risk, leading P2P software distributors have changed default settings to permit sharing only files downloaded from other users, and require several affirmative steps in order for consumers to change this setting and be able to place additional files into their shared folders. This mitigates the security risk to personal information by making it very difficult to inadvertently share such files. Commercial search engines, e-mail applications, websites, and other Internet-based software programs also expose consumers to this risk in different ways and in many cases to a greater degree.

3. Does the use of P2P file-sharing software inadvertently expose consumers, particularly children, to pornographic or other inappropriate materials? If so, what is the nature and extent of this risk? Can consumers avoid this risk? Is this risk different from the risk that a central server model or other models pose? If so, how?

Files downloaded from the Internet using P2P file-sharing software could contain pornographic material. These files may be mislabeled with seemingly innocent names. This can result in users, including children, being inadvertently exposed to pornography. Redistributing files containing child pornography or obscene content can be a crime. In order to address this risk, leading P2P software distributors provide family filters with parental-password protection that can block search results based on several levels of key-words and, at maximum levels, block all video and images. Parental supervision and proper use of these tools combine effectively to mitigate this risk. General purpose search engines and websites also expose consumers to this risk, as well as commercial child pornography, of which none is available on P2P, and chat-rooms add the danger of predatory encounters, making non-P2P risks of exposure to pornography greater and more pernicious.

4. Does the distribution and use of P2P file-sharing software pose a risk to consumers for installing spyware? If so, what is the nature and extent of the risk? Can consumers avoid this risk? Is this risk different from the risk that a central server model or other models pose? If so, how?

Files downloaded from the Internet using P2P file-sharing software may contain spyware that can track consumers' online activity, control their computers, or harm their operation. In order to address this risk, DCIA Members pledge not to distribute spyware. For abusers attempting to distribute spyware by means of P2P software, anti-spyware programs are commercially available to periodically check for and remove spyware programs and effectively mitigate this risk. Leading P2P distributors are now evaluating ways to integrate these with their offerings, as they have already done with anti-virus software. Surreptitious online distribution of spyware ranges from e-mail attachments to websites to drive-by downloads and occurs to a greater degree outside of P2P usage.

5. Does the distribution and use of P2P file-sharing software cause consumers to install adware? Does adware pose a risk to consumers? If so, what is the nature and extent of the risk? Can consumers avoid this risk? Is this risk different from the risk that a central server model or other models pose? If so, how?

Leading P2P file-sharing software programs are generally offered in two alternative ways: 1) for an annual license fee in the $25-$30 range without adware; or 2) for free in exchange for accepting adware that delivers a limited amount of targeted advertising. Adware industry leaders exemplify best practices in such areas as consumer notification and consent, efficiency in message targeting and protection of consumer privacy, clarity of communicating the sources of ads, and ease of uninstallation. Adware, thus implemented, provides a valuable benefit to consumers, but can be avoided by electing to pay for the affiliated P2P software program. Adware can also be installed by websites and packaged with any type of online software program.

6. Does the use of P2P file-sharing software expose consumers to viruses or other malicious code? If so, what is the nature and extent of this risk? Can consumers avoid this risk? Is this risk different from the risk that a central server model or other models pose? If so, how?

Files downloaded from the Internet using P2P file-sharing software may carry computer viruses, worms, or trojans that can damage their computers or cause other problems. These files typically are mislabeled to disguise their true purpose. In order to address this risk, leading P2P software distributors have integrated anti-virus applications with their programs that download preset to be "on" and afford consumers flexibility to adjust the frequency of updating their virus definitions. This effectively mitigates the risk of exposure to viruses through use of P2P software. Viruses can be obtained through a variety of methods including e-mail, which is the most prominent way they are propagated, and by downloads from websites.

7. Does the installation and use of P2P file-sharing software impair computer functionality, such as processing speed? If so, what is the nature and extent of this risk? Can consumers avoid this risk? Is this risk different from the risk that a central server model or other models pose? If so, how?

The installation and use of P2P file-sharing software generally does not impair computer functionality, such as processing speed. Spyware and viruses can impair functionality in that way, however, and as noted above, may be distributed by abusers of P2P software programs. Also as previously noted, these risks can be mitigated by

responsible use of anti-spyware and anti-virus applications. Spyware and viruses can be obtained through a variety of methods including by connecting in any way to any other computing device that may contain a program that distributes such malware, and P2P usage is not the most frequent way they are disseminated.

D. Disclosure of P2P File-Sharing Software Program Risks

1. What do studies, surveys, or other empirical research reveal about the extent to which users of P2P file-sharing software programs are aware of the risks associated with these programs? Are there differences in awareness between children and adults? Are there differences in awareness between teenagers and parents?

Empirical research to quantify relative awareness is inconclusive with respect to such a relatively new and rapidly changing industry. This subject would be well-suited for a tracking study that would evaluate the efficacy of programs such as the "P2P Software Risks" regime developed by the CDWG as they are implemented and enhanced with supplemental education programs. There is a generally held opinion that teenagers have the highest degree of awareness of risks as well as nuances of features and benefits of P2P software programs, with parents at the next level, and children at the lowest level of awareness.

2. To the extent that users are unaware of the risks associated with P2P file-sharing software programs, would disclosure requirements be an effective method of educating consumers about these risks? If disclosures would not be effective, is there a more effective means of communicating such information? To whom (e.g., parents, children, all users) should the disclosure of risk information be made?

The CDWG believes that voluntary self-regulatory activity in the area of consumer disclosures directly to users and prospective users will be the most effective method of educating consumers about these risks. Key to effectiveness will be what, how, and when information is communicated. The CDWG work product entitled "P2P Software Risks" consists of three parts: 1) a standardized copyright infringement warning that will appear with each download of P2P software and update; 2) a risk alert with a link to a standardized risks-disclosures-page prominently displayed in a framed message-box above-the-fold on the home-pages of P2P websites; and 3) the same message-box and page-link to appear each time the user opens the P2P software, for example in a pop-up window or on the home-page. By clicking on the link, users will connect to a standardized risks-disclosure-page that will in turn also link to a document posted online by the Federal Trade Commission (FTC), where they can obtain additional important information about P2P software applications. By clicking on a link at the end of each disclosure, users will connect to a relevant section of the P2P company's website, where they can obtain additional important information about how that particular application can help them avoid or mitigate each respective risk. Supplementing such direct, just-in-time user disclosures, additional information made available elsewhere online and offline, directed at parents and at children can also be beneficial, and the CDWG plans to explore that as well.

3. Do P2P file-sharing software programs currently disclose risks adequately to users? If not, how could these disclosures be modified to make them more effective? What are the costs associated with making disclosures more frequent or prominent?

The FTC examined practices of leading P2P software distributors earlier this year and concluded that, while none engaged in unfair or deceptive trade practices, they could improve the frequency, consistency, clarity, and conspicuousness of their risks disclosures. The CDWG was formed in response to this finding, and developed the "P2P Software Risks" standardized disclosure regime for review by federal regulatory authorities and legislators. This process is now at the stage where Congressional input is being sought, and an online demo is available at http://www.dcia.info/demo.ppt. Once such input has been processed and changes made accordingly, P2P software distributors will voluntarily elect to implement this regime, typically with a new release of their software. These companies expect to have to absorb the costs associated with implementing this program, and are willing to do so to demonstrate their responsibility and responsiveness.

4. What methods, other than risk disclosures, can be used to educate consumers about potential risks associated with P2P file-sharing software?

Beyond risks disclosures targeted at users and prospective users and delivered at relevant times and places, a general education program focused on parents and children could be developed and implemented, and the CDWG envisions undertaking this as its second work product after implementing the "P2P Software Risks"

program. Besides the P2P software developers and distributors themselves, participants are expected to include trade organizations, educational institutions, and content providers.

E. Technological Solutions to Protect Consumers From Risks Associated with P2P File- Sharing Software Programs

1. What types of blocking and filtering technology exist to protect users from the risks associated with P2P file-sharing software programs? How do they compare with blocking and filtering available with a central server model?

Each risk requires a unique method of addressing it in order to protect consumers. Copyright infringement can be addressed by content providers using digital rights management (DRM) technologies, combined for certain circumstances with acoustical fingerprinting and watermarking solutions provided by third parties. Data security can be addressed by internal P2P software functionality requiring several affirmative steps in order to make a file available for sharing. Pornography can be addressed through a combination of search-term / metadata filtering with file-type filtering to block access to all images and videos at the maximum level setting. Spyware can be addressed currently with third-party anti-spyware applications and potentially by integrating these with P2P software programs. Viruses van be addressed by bundling anti-virus applications with P2P software programs. In addition, new software is in beta testing that can enable parents to block P2P usage by their children or to closely monitor such activity.

2. Are existing blocking and filtering programs effective? If not, what steps can the P2P file-sharing software industry take to improve blocking and filtering technology included with its programs?

Existing blocking and filtering programs used by P2P file-sharing software providers to mitigate applicable risks are as effective as or more effective than those employed generally by web-based software distributors. As previously noted, there are opportunities for integrating anti-spyware applications with P2P software, similar to the way anti-virus software is currently bundled. In addition, although this is by no means a unique problem for P2P software programs, additional methods to increase the security of parental passwords for various level settings, including those that would restrict an entire computer's usage, are desirable and may require active participation by operating system providers.

3. What future changes to blocking and filtering technologies might enhance the protection of users from the risks associated with P2P file-sharing software programs?

Future changes to blocking and filtering technologies that might enhance the protection of users from the risks associated with P2P file-sharing programs can range from continuing adjustments such as refining the levels and enhancing the user input features of existing applications, which typically occur with new P2P software releases, to adding wholly new tracking, blocking, filtering, and related applications.

4. What changes to the architecture of P2P file-sharing software programs (e.g., the configuration of shared folders or the addition of anti-virus software) might reduce the risks associated with P2P file-sharing software programs for users?

Changes to the architecture of P2P file-sharing software programs, such as reconfiguring shared folders to fully prevent certain types of files from being placed into them, or adding anti-spyware software similar to the way leading P2P software provides have added anti-virus software, would further reduce the risks for users. The distributed computing industry is committed to proactively improving the safety and value of its users' experience. This also includes mitigation and elimination of the risks themselves by self-regulatory actions, beyond blocking and filtering to address symptoms.

F. P2P File-Sharing and Music Distribution

1. What are the economic models of music distribution that use P2P file-sharing technology? How is music likely to be distributed in the future using P2P file-sharing technology?

A series of "P2P Music Models -- Proposed Business Models for Digital Music Distribution" has been developed with input from music and P2P software industry representatives and other qualified experts, and is now posted

at http://www.dcia.info/model.ppt. Also provided is an area for interested parties to post their comments and recommend other models. These include music distributed via P2P with advertising support, various types of recurring subscription services, and a la carte track and album sales. Technology exists to support an unprecedented variety of economic models for music distribution via P2P. Content entered into P2P distribution by rights holders can be fully protected and securely monetized using P2P DRM technologies. The remaining issue is content entered into P2P distribution by consumers. The P2P Revenue Engine (P2PRE) is a project involving ten independent technology companies in areas such as DRM, acoustical fingerprinting, and payment services that focuses on solving this problem so that consumer-entered content will perform as though rights holders had entered it. A narrative description of P2PRE is now posted at http://www.dcia.info/P2PRE.pdf.

2. How is P2P file-sharing technology different from single server downloading sources such as Walmart.com?

P2P file-sharing technology is different from single server downloading sources in several ways. Music files may be discovered and delivered from shared folders of all other users of compatible software programs rather than just from the central source. Current estimates are that upwards of twenty million different music tracks can be accessed via P2P, while single server download stores typically are limited to several hundred thousand. The infrastructure costs for music distribution, including storage, reproduction, and transmission, are borne by P2P users rather than by the operator of the central server source. P2P technology enables faster downloads than a central source and uses less bandwidth. P2P becomes more efficient at distribution and its content inventory increases as its community of participants grows, while a central download server source does neither.

3. To what extent do P2P file-sharing software programs currently compete with pay-per download services such as iTunes? Would existing or future technology enable copyright holders to be compensated when users of P2P file-sharing software programs transfer copyrighted files? If so, what would be the effect on competition?

P2P file-sharing software programs currently compete directly with pay-per download services, albeit with approximately five percent of the number of licensed files as the major-label-supported centralized online stores, and with the P2P licensed music exclusively from small independents. Nevertheless P2P completes approximately ten times the licensed content transactions per month as do the centralized stores. Existing DRM technology enables participating copyright holders to be compensated as P2P users redistribute their copyrighted files. If the major labels also licensed their content and the P2PRE project was implemented, the P2P distribution channel would be highly competitive, not only with download stores, but also traditional CD retail distribution.

4. Does P2P file-sharing technology lower the cost of music dissemination? If so, how much? What do the data show?

P2P file-sharing technology lowers the cost of music dissemination substantially according to data presented in the CED's "Promoting Innovation and Economic Growth: The Special Problem of Digital Intellectual Property." Major labels are charging $0.99 for tracks delivered over the Internet, yet these do not need to contribute their share of cost recoupment for CD retail mark-up (est. $0.27), marketing and administration (est. $0.17), VAT (est. $0.14), or compact disk manufacturing and shipping (est. $0.12). To yield CD-comparable allocations for artist royalties (est. $0.13), publisher mechanicals (est. $0.08), and label A&R (est. $0.08), the wholesale cost into P2P could in fact be below $0.30 per track. In the digital realm, and particularly with P2P, consumers rather than content providers bear the costs of manufacturing, storage, transmission, and even some of the costs of marketing – and have demonstrated clearly that they're willing to pay a fair price for digital content.

5. Are record labels willing to distribute music through P2P file-sharing? Why or why not?

To date, several hundred independent labels and thousands of artists have licensed tens of thousands of tracks for distribution via P2P, with more signing on each month. Yet not a single track has been licensed for P2P distribution by any of the four major labels. The reason for this is that the majors have not yet found any of the proposed business models sufficiently attractive to alter their collective strategy of litigating P2P software providers and seeking related legislative changes to arrest P2P technology growth.

6. Is there empirical support for P2P file-sharing technology increasing music sales through sampling or greater awareness of artists? What do the data show?

There is a growing body of empirical support for the use of P2P file-sharing technology to increase music sales through sampling or promoting awareness of artists, particularly those who do not have major label backing to ensure exposure on commercial radio outlets. The independently conducted and widely publicized Harvard-UNC study is an example of such work.

7. Are music files on P2P file-sharing networks being intentionally "polluted" or "corrupted"? What effect does the intentional pollution or corruption of files have on P2P file-sharing software as an evolving technology?

Music files on P2P file-sharing networks are being intentionally "polluted" or "corrupted" by several entities employed by major labels expressly to conduct such destructive interdiction or "spoofing." The way in which this is done, by intentionally sending a continuous barrage of damaged files that erode relationships between artists and their fans, is also harmful to the commercial development of P2P file sharing and, per plaintiff claims, in violation of important patents that can be used to support licensed content distribution. Those who sponsor such activities could instead engage in a beneficial activity as a good-faith pre-cursor to full licensing of the P2P distribution channel. Rather than corrupted media, messages containing obscene insults, and potentially damaging "white hiss" files, these entities could introduce positive cross-promotional messages and previews of their pop-music content. They could respect IP by licensing requisite patents and changing to a constructive course of action.

G. P2P File-Sharing and Its Impact on Copyright Holders

1. What is the impact of P2P file-sharing on copyright holders?

The impact of P2P file-sharing on copyright holders varies depending on several factors, such as the nature of their content and their relationship with the P2P distribution channel. For those who have embraced P2P, licensed their content for authorized distribution, protected it with P2P DRM technology, and arranged for payment services, it represents a highly efficient channel, where many of the distribution infrastructure costs, including shelf-space, fulfillment, and even certain promotional expenses, are cooperatively borne by the customers. Each month, more independent music labels, movie producers, and individual artists distribute their copyrighted works via P2P, generating incremental revenue for the channel and income for themselves. For those who have distributed numerous CDs or DVDs of pop-culture content without copy-protection and have not developed a P2P distribution strategy, which category includes the four major music labels and seven major movie studios, P2P can represent potential infringement. Studies dispute whether such activity currently threatens to be a substitute for content purchases or a promotional/sampling phenomenon that leads to content purchases. The bottom line, however, is that both the music and movie industries have shown substantial growth in sales year-to-date (YTD) at the same time as P2P file-sharing has also grown by double digits. For example, for the nine months from January-September 2004, Soundscan reports a 6% increase in music album sales and BigChampagne reports a 13% increase in file sharing.

2. Is it possible to measure downloading of copyrighted materials by users of P2P file-sharing programs? If so, how would such a study be designed?

DRM-protected copyrighted materials are accurately tracked as they are redistributed among users of P2P file-sharing software. Content that is entered into redistribution without authorization by consumers from unprotected CDs and DVDs is more difficult to track. A study could be designed based on measuring and analyzing traffic from a representative subset of the Internet (a selection of points-of-presence [POPs] of ISPs for instance) and extrapolating these findings to the Internet user universe in order to estimate the downloading of copyrighted materials globally.

3. Can P2P file-sharing program providers effectively protect against copying in violation of copyright laws? Can P2P file-sharing program providers protect against content degradation? What effect would such protective measures have on consumers and competition?

P2P file-sharing program providers are one element in a large and complex distribution chain and cannot currently, on a unilateral basis, protect against copying in violation of copyright laws. By comparison, satellite dealers on a unilateral basis could not protect against unauthorized satellite television signal transmission, but that is accomplished by television programmers using encryption technologies and working in conjunction with satellite fleet operators, antenna distributors, receiver manufacturers, etc. as well as satellite dealers. Content

providers using P2P DRM technologies and working in conjunction with CD and DVD manufacturers, acoustical fingerprinting and watermarking technology firms, and payment services companies, as well as P2P software suppliers, could effectively protect against copying in violation of copyright laws. Such solutions would be made even more robust with the participation of ISPs, who could implement POP-level router metering technologies to support this. Content degradation does not occur with P2P, which enables mass redistribution of perfect digital replicas of content files. However, systems could be developed involving the above parties to provide authorized high-quality substitutes for files that may have been poorly copied and initially entered into P2P distribution. Optimally implemented protective measures would have the effect of vastly increasing P2P distribution channel revenue.

4. Is there technological capability for the P2P file-sharing technology industry to implement a system that either prevents the unauthorized sharing of content or only permits the sharing of content when there is compensation to the copyright holder?

There is technological capability for the distribution chain in its entirety, of which P2P file-sharing technology is a part, to implement a system that will only permit the sharing of registered content when there is compensation to the copyright holder. This capability is beyond the scope of P2P software providers alone, and will require the involvement of other parties, including acoustical fingerprinting experts, right-holder registry database managers, DRM suppliers, payment services, etc. to be implemented. Ideally, it should also involve ISPs for the most robust implementation, although for liability and other reasons, ISPs currently resist such a role. It is essential that this be implemented with a focus on facilitating revenue generating transactions rather than preventing unauthorized redistribution of content, or there will be no way to recoup the substantial development and maintenance costs for deploying such as system.

5. Will technological changes allow content providers to protect their copyrighted materials from infringement by P2P file-sharing software program users? If so, what effects would these changes have on competition and consumers?

Technological changes that will allow content providers to protect their copyrighted materials from infringement by P2P file-sharing software program users can be implemented with a relatively modest investment given the enormous return this will generate to rights holders. The effects on competition and consumers will be to fully legitimize what will be the most efficient entertainment distribution channel in existence.

6. Would consumers and competition benefit from or be harmed by industry-wide standards for the protection of copyrighted materials, e.g., encryption or other digital rights management? What, if any, information should consumers be given about the effect of these standards on their use of copyrighted materials?

Consumers benefit from standardization that supports interoperability among playback devices (e.g., CDs from multiple music labels playing on CD players from multiple manufacturers) and facilitates usability of media protected by DRM (e.g., all premium channels distributed on a given cable or direct-by-satellite system using a common descrambling technology in their set-top-boxes). Competition benefits when these standards are allowed to develop through marketplace forces in their respective industries. Efficiencies may also be enhanced by using common encryption technologies for both offline and online protection of certain types of media; while different types of media (audio, video, software) may require different types of DRM. Consumers should be informed of the impact of such content security technologies on their privacy and of the permitted usage parameters (e.g., number of additional copies, other device compatibility, etc.)

7. Are licensing proposals available that would address the impact of P2P file-sharing on copyright holders?

There are a number of licensing proposals that would address this that are distinguishable primarily based on the precision with which content files are protected and monetized. These range from low-precision actuarially-based approaches to high-precision per-transaction approaches. The former approaches comprise various collective licensing proposals; the latter are exemplified by the P2PRE, which provides technical solutions that will support offering a digital content file simultaneously as an advertising supported promotional version, opt-in subscription offering, a la carte sale version, and in additional more innovative ways, securely, as it is redistributed from user to user by means of P2P file-sharing software.

Addenda

The DCIA has grown from two Members in July 2003 to twenty-eight today, representing content providers, P2P software suppliers, and services companies, reflective of steadily growing interest in commercial development of P2P file sharing.

To quote from the unanimous finding of the Ninth Circuit Court in August in favor of P2P: "The introduction of new technology is always disruptive to old markets, and particularly to those copyright owners whose works are sold through well established distribution mechanisms. Yet, history has shown that time and market forces often provide equilibrium in balancing interests, whether the new technology be a player piano, a copier, a tape recorder, a VCR, a PC, a karaoke machine, or an MP3 player."

The current P2P situation fits the entertainment sector pattern of initial rejection of new distribution channels, followed by structural change and adoption; and the DCIA's preference is to advance business and technical solutions rather than press for new legislation or increased enforcement actions until one or more new business models are in place.

If prohibition of VCRs or satellite television had been imposed before the advent of video-rentals-and-sales or signal-scrambling-and-subscriptions, society would not have benefited as it has from the growth of these new channels for entertainment distribution, and the same developmental process needs to be encouraged for P2P.

As Rap Station's founder Chuck D said last year at the Senate Permanent Subcommittee on Investigations hearing on the paradox of peer-to-peer file sharing, "P2P stands for 'power-to-the-people'."

And as DCIA Members increasingly demonstrate, P2P has the potential to become the most "Personal and Powerful Platform" of all distribution channels for the authorized distribution of copyrighted works.

The problem has been the failure to develop one or more business models attractive enough for top entertainment aggregators to license the P2P distribution channel – and specifically the four major music labels and seven major movie studios.

This contrasts with the games industry, where all twelve major publishers license P2P and have already generated more than two-hundred million authorized downloads.

It also contrasts with hundreds of indie labels and thousands of emerging artists who also license P2P and make a living in their chosen profession (that was basically closed to them under the old major-label system).

Jillian Ann, a New York singer songwriter generated twenty million impressions in two weeks from her first six music tracks released in P2P, earning income for herself and revenue for the channel, and winning an MTV contract.

Earlier this fall, fifteen bands held a file-sharing concert in Michigan to demonstrate that independent artists, who are shut out of radio exposure as well as big label contacts, embrace P2P as a viable channel for reaching their fan base and selling content.

In head-to-head competition with iTunes in late summer, P2P sold the most tracks of Heart's Jupiters Darling released by Sovereign Artists using the "Weed" digital rights management (DRM) technology of Shared Media Licensing.

Every month more independents are coming to P2P for promotion and sales, and jobs are being created for their employees and for emerging artists.

But there's still not a single licensed track from any of the big four labels on P2P. It is the underlying reason for this that is the problem.

There are two ways content gets into P2P distribution. It can be seeded by rights holders – encrypted with DRM technology to protect and monetize it as it goes from user to user – as in the examples of games and independent music.

But of great concern to the majors who mass-market CDs and DVDs without copy protection, it can also be seeded by consumers – in which case tens of millions of perfect digital replicas transmitted instantly around the world represent copyright infringement – not desired super-distribution.

Solving this is the key to commercial development of the P2P distribution channel and the distributed computing industry.

The problem has led to divisiveness. There is ongoing litigation by major rights holders against P2P software providers, similar to lawsuits filed against VCR manufacturers before the invention of the video rental industry, or lawsuits filed against dish dealers before the invention of the subscription satellite TV industry.

A change in approach to P2P by leaders of major entertainment companies is needed to break the logjam and fully license the P2P channel. But until then, there's a stigma against anyone in the content industry for even working on a solution – their lawyers advise that this will hurt their chances in court.

There are also counterclaims of anti-trust violations for refusing to deal and most recently of IP and patent violations for engaging in destructive spoofing activities. These charges are well-founded and were made only after exhaustive efforts to pursue more constructive collaboration.

And finally, there have been misguided attempts to change copyright law, such as sending people to jail for having a thousand tracks on an iPod with a modem – whether or not anyone downloaded a single song – or redirecting the Justice Department from fighting terrorism to suing tens of thousands of file sharers – or combining these, so no one would feel safe using a networked device that might touch entertainment content.

Today's content providers could benefit from advice Ted Turner gave his marketing department about on-air spots targeting early satellite-dish owners. He quickly dismissed the first draconian voice-over warnings about "federal copyright violations" in favor of consumer-friendly Peter Thomas lifestyle-spots: "Satellite dish owners, don't panic, you won't miss a minute of CNN or Headline News when you subscribe to our new offering."

It is unconscionable that anyone would prefer sending young people to jail rather than adjust their business model to keep up with technology. Yet that is where we are.

There have also been attempts to change the law so content rights holders could sue P2P software providers for allegedly encouraging infringement, which would also apply to any entity developing any new hardware or software that could be used as part of any system that could be used for distributing content.

Had this been law, VCRs, DVD players, cable, and satellite TV, and many other innovations that have benefited the entertainment industries would have all been illegal.

The intensive lobbying activities that have driven these efforts have ranged from the usual propagandizing to seriously unethical behavior. When the full story comes out, this will be a scandal worthy of a made-for-TV movie or a feature film.

But these are distractions to what needs to be the real mission of all affected parties – to foster commercial solutions for P2P so that, for every transaction, rights holders will be compensated, and usage rules that they set will be followed.

That is our goal with respect to countering copyright infringement and we are proactively working with content providers, P2P software suppliers, and service-and-support companies to realize it.

Solutions need to include education and enforcement, but most important – fully licensing the P2P channel. Commercial solutions should come first, and any enabling legislation should come only as a last resort and only based on a consensus among affected parties.

Here's what the distributed computing industry is doing for education. In June it established the Consumer Disclosures Working Group (CDWG) with participation from leading P2P software program distributors. The CDWG worked with federal regulatory officials on a three-part P2P software risks regime now being made available as an online demo for Congressional review.

Part one: a copyright warning prominently displayed each time a user installs a P2P program or update: ***"The use of this software for illegal activities, including uploading or downloading games, movies, music, or software without authorization, is strictly forbidden, and may be subject to civil and/or criminal penalties."***

Part two: a risk-alert in a message-box above-the-fold on home pages of P2P websites linking to this disclosure: ***"Copyright Infringement - Some files contain copyrighted works, like popular games, movies, music, and software. P2P software makes it possible to upload and download copyrighted material from the Internet without proper authorization, but that can violate copyright laws and subject you to criminal and civil penalties. Click here for information about how this P2P software application can help you avoid committing copyright infringement."***

And part three: that same message-box and link also appear each time a user opens the P2P program – in a pop-up window or on the home-page.

Here's what the industry is doing for enforcement. In September, with the caveat that it was still premature, but as requested by Senate Judiciary leaders, it recommended to the Copyright Office and Judiciary Committee ***"The Peer-to-Peer Distribution of Copyrighted Works Development Act of 2004 (PDCWDA)."***

Its first provision directs copyright owners desiring to monetize their works by means of digital distribution to register them for identification purposes with the Copyright Office. Its second provision requires hardware and software companies and ISPs to deploy systems to accurately track the delivery of these files to consumers. Its third provision provides for competitive pricing and revenue-sharing through private negotiations.

This is not a recommendation for compulsory licensing. Under the PDCWDA rights holders would be able to voluntarily license their content or withhold it, to set rates and determine usage parameters, and otherwise exert control over their copyrighted works, just as they do in other distribution channels.

And in November, the industry's anti-child-pornography initiative, ***P2P PATROL – Peer-to-Peer Parents And Teens React On Line****, held its first quarterly working session with federal and state law enforcement officials focused on eliminating criminally obscene content, and at the recommendation of four Senate leaders, and in response to the Department of Justice's recent IP report, also included copyright enforcement on the agenda.*

But what is really needed is a commercial solution, with a vision such as this – consumers continue to copy entertainment content from CDs and DVDs for use on their PCs and portable players; they also continue to place such files in their P2P shared folders, but without risking infringement.

When another user selects one of these files, as uploading begins, a new standalone program or P2P client plug-in or fully integrated application automatically matches that file against a rights-holder registry and either replaces it with an authorized substitute, or applies DRM technology before the file is downloaded by the next user.

Users may also automatically register their own original works for this P2P super-distribution, and be compensated with a share of advertising or content sales revenue.

Part of this solution is already in place. Companies like Altnet, INTENT MediaWorks, Shared Media Licensing, and Trymedia Systems, have become the largest distributors of licensed content on the Internet by working through such P2P software providers as eDonkey, Grokster, and Kazaa.

With more than fifty million licensed transactions per month, they conduct more than ten times the business of music-industry-supported online centralized download stores like iTunes.

These efforts have aptly demonstrated that DRM-protected content can be securely redistributed via P2P, and that consumers will select and purchase it.

*The rest of the solution is now being developed in a project called the **P2P Revenue Engine (P2PRE).** This features a collaboration of ten companies focusing totally on a solution that will be attractive enough to major music labels and movie studios to fully license the P2P distribution channel.*

Companies like Relatable, which performed acoustical fingerprinting for the original Napster, identifying three-hundred million copies of thirteen million music tracks at the height of its traffic, and MediaGuide, which currently maintains a global rights database for several million tracks on behalf of music composers and publishers, have teamed to conduct proof-of-concept testing for identification of consumer-entered P2P content.

Companies like AlmondNet, Clickshare, Digital Containers, Peppercoin, and P2P Cash are engaged in development of advanced P2P DRM, tracking, and payment-processing services that will make it possible for content rights holders to offer a given title simultaneously as an ad-supported promotional version, opt-in subscription offering, and an a-la-carte sale.

Rights holders will determine and be able to quickly and easily change pricing, packaging, and usage parameters.

This kind of model – and the P2P Revenue Engine is not exclusive by any means – needs to be the basis for solutions to benefit all affected parties.

DCIA Members obey copyright laws and oppose infringement, and respect and support the Department of Justice in its enforcement role.

We commend David Israelite and his team for the enormous effort evidenced by their recent IP report, many recommendations of which we support with respect to serious organized piracy for criminally commercial purposes, where economic and, in some cases, other harms have been documented, and where there is an absence of non-infringing activity.

We also appreciate the perspective expressed by Assistant Attorney General Hewitt Pate in Aspen at last summer's summit meeting.

With respect to P2P file sharing, the focus needs to be on offering authorized ways to access major entertainment content in the P2P distribution channel, before unleashing additional resources to penalize unauthorized activity by means of this widely-adopted technology.

Once a change has been made so that most mainstream entertainment content is authorized, most distribution channel participants are participating, and most users are complying, then it will make sense to revisit enforcement.

But for now since there is no authorized way to get a major-label-track or major-movie-studio-motion-picture, the focus needs to be on correcting that problem. We must move to a situation where bad actors in the P2P environment will be as easy to isolate and identify as someone walking into a theater with a camcorder.

We stop short of equating young people sharing music files for no commercial gain with drug traffickers and terrorists, however. No harm has been causally demonstrated to the entertainment industries from P2P thus far, and numerous studies demonstrate a promotional benefit. This is not to say that change is not needed and soon.

We were relieved that the report did not recommend using federal resources to help pursue civil lawsuits against individual file sharers.

We are hopeful that the time may finally be approaching for negotiation to replace litigation as the central activity among the parties on the major entertainment content side and P2P software development and distribution side.

There is an irreversible evolution to increasingly efficient decentralized distribution on the Internet, and the most viable long term solution is for affected parties to work together in order to adjust to it.

We firmly believe that strategic copyright enforcement actions, coupled with investigations of the anticompetitive activities of a relatively small number of companies, will combine to lead to more rapid commercial development of the P2P distribution channel than otherwise.

P2P file-sharing software distributors for the most part are not yet in the business they should be in as a result of not being able to license major entertainment content.

With no copyright infringement, the P2P consumer-adoption-curve may not have been as aggressive as it has been – easily surpassing that of instant messenger (IM) software, which was the previously most rapidly and widely accepted web-based program – but five factors would have ensured P2P's vitality:

1. As the leading aggregate-content-on-demand index for multiple content types, P2P would still have become a consumer preference – given the decentralized evolution and proliferation of access to the Internet.

2. With tens-of-thousands of content owners permitting hundreds-of-thousands of files to be shared – in addition to vast quantities of public domain material – ample content would have continued to be available.

3. Promotional content would still have been distributed via file sharing as a choice of entertainment copyright owners – to exploit P2P-viral-marketing effectiveness in arousing awareness and interest in new pop-culture entrants.

4. DRM technologies would still have developed for original content entered into P2P environments by independent rights holders – validating this new distribution channel for licensed content.

5. The costs to develop and distribute P2P applications would have continued to decline to the point that they have now – able to support much smaller content inventories and user bases commercially.

The time has come to urge the major labels and movie studios to engage with technology providers to fully legitimize the P2P distribution channel. Our research shows that the major labels could enjoy compounded revenue growth of nearly 10% per year and incremental retail revenues of more than $900 million per month by fully embracing the P2P distribution channel.

P2P software providers have publicly acknowledged that certain deficiencies in user experience have prevented the technology from achieving its full potential to benefit consumers. That is why they have concentrated much effort over the last couple of years to incorporate parental controls, anti-virus software, and improved privacy defaults into their products. The most productive approach would be to call for greater disclosure of risks for all the technologies about which the public may not fully be informed.

Singling out P2P file-sharing software as a tool for copyright infringement is also unwarranted. P2P software functions essentially in the way commercial search engines do, returning queries on published file directories. Copyright infringement is not only common but also more voluminous in attachments to e-mails and instant messages.

Regarding whether consumers already have choices in behavior, the real comparison would have to be between traditional centralized online music stores of licensed content and P2P distributors of licensed content.

Why worry about preserving the latter option? Because it is different from and provides alternative benefits (in the distribution of licensed, not free, content) from centralized services. This is demonstrated through the rising use of licensed P2P distribution by independent labels and artists who have been locked out of traditional retailers by the major recording studios, and by major artists like HEART who see P2P not as a threat but as an opportunity. It is also witnessed by the fact that P2P has become the largest distribution channel for licensed game software online bar none.

While the DCIA acknowledges there are significant problems with copyright infringement via P2P file sharing, and opposes it, consumers find real benefits in the licensed P2P sales model, and lawmakers owe it to them to delve more deeply into the P2P marketing experience, which continues to evolve, before simply declaring that the public has no legitimate need for this vital, growing alternative.

Global decentralization of the Internet has reached the point that it would be virtually impossible to stop the proliferation of P2P file-sharing technology or prevent its continuing evolution to higher levels of efficiency.

To summarize key issues:

Copyright Infringement

DCIA Members have pledged unanimously to oppose copyright infringement. Leading P2P software suppliers notify consumers with clarity and frequency about copyright infringement pre-installation and during the operation of their applications.

Through licensing of copyrighted works from games publisher and small, progressive independent content providers not under the control of major entertainment aggregators, DCIA Members have also become the largest distributors of licensed content online, conducting an order of magnitude more licensed transactions monthly than the major-label-supported download stores.

Pornography

While no amount of child pornography can be tolerated, users have the ability to put into their shared folders anything they choose to make available. Therefore, it is unremarkable that both pornography and child pornography can be accessed through P2P applications.

As is the case with any Internet content-access technology, the proper response is to work with law enforcement on initiatives to combat child pornography and to encourage parents to closely supervise their children's use of the Internet, wisely using the parental control technologies at their disposal.

This is the approach DCIA, its Members, and others have taken, including support for the arrests of child-pornographers announced in May 2004, and the launch, with DOJ support, of the industry-wide ***"P2P PATROL – Peer-to-Peer Parents And Teens React On Line"*** *in August 2004.*

The DCIA and our P2P Members have been working for more than a year cooperatively and proactively with law enforcement agencies on programs to facilitate prosecution of abusers of P2P technology who violate the law. Further, beyond enforcement activities, deterrence programs developed by the DCIA and our Members with federal law enforcement have now been launched as part of the new industry-wide P2P PATROL, and education programs are well into their development process with plans for a November 2004 launch.

Parental Controls

P2P software suppliers are second to none among Internet-based companies in providing tools enabling parents to protect their children from exposure to undesirable content. Users can choose options to block adult content, which is the default setting, add more key-words to be blocked, prevent all video and images from being downloaded, and password-protect their filter settings.

Commercial Issues

The real obstacle to P2P user realization of the potential of the technology is the failure to license major entertainment for legitimate, paid distribution via P2P file sharing. We urge lawmakers to resist an unbalanced attack on P2P and to avoid the trap of demonizing a neutral technology, and instead to address the true propagation of risks online and call for all relevant parties to cooperate in reducing them.

Further improvements in privacy, security, and parental controls can be made in many digital technologies. Indeed, if the federal government's focus is primarily on such threats, it should examine e-mail and browser products, which remain notoriously vulnerable despite being distributed by some of the world's most profitable corporations. Improvements in discouraging infringement can also be made, including music-company self-help by building copy-protections into physical CDs, which is the root source of the current problems.

It is fair to urge all the business interests involved to work together more vigorously to achieve these goals, and to continue to present users with better, more user-friendly controls and protections, to improve the user experience within the bounds of the law.

It is time to call for an end to the major labels' and movie studios' unnecessary and self-destructive refusal-to-deal and insist upon enlightened behavior by rights holders and technology providers, informed by past experience.

The solution is as simple as a single statement: end the boycott of the P2P distribution channel by major entertainment content aggregators.