



**PEER-TO-PEER FILE-SHARING TECHNOLOGY:  
CONSUMER PROTECTION  
AND COMPETITION ISSUES**

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AND COMPETITION ISSUES**

FEDERAL TRADE COMMISSION

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## EXECUTIVE SUMMARY<sup>1</sup>

On December 15 and 16, 2004, the Federal Trade Commission (“FTC”) held a public workshop entitled “Peer-to-Peer File-Sharing Technology: Consumer Protection and Competition Issues.”<sup>2</sup> The two-day workshop explored a wide range of issues relating to peer-to-peer – or “P2P” – file-sharing technology, and included seven panels featuring more than 40 representatives from the P2P file-sharing software industry, entertainment industry, high-technology research firms, government agencies, academic institutions, and consumer groups. Panel topics included:

- P2P and How it Works;
- Risks to Consumers Related to P2P File-Sharing Activities;
- Technological Responses to Protect Consumers Using P2P File-Sharing Programs;
- Government and Private Sector Responses to Protect Consumers Using P2P File-Sharing Programs;
- The Future of P2P Technology: Effects on Efficiency and Competition;
- P2P File Sharing and Its Impact on Copyright Holders; and
- P2P File Sharing and Music Distribution.

The workshop was the latest chapter in the Commission’s continuing effort to assess the impact of new technologies on consumers and businesses.<sup>3</sup> While these technologies confer significant benefits, they also pose risks to consumers. The technologies also present new legal and policy challenges, including how to protect property rights, privacy, and the competitive process while still allowing creativity and innovation to thrive.<sup>4</sup> Through the workshop, the Commission sought to explore and better understand the complicated issues arising from P2P technology, and to inform the public debate about its use and development.<sup>5</sup>

Together with FTC Chairman Deborah Platt Majoras, Senator Gordon Smith, then-Chairman of the Competition, Foreign Commerce, and Infrastructure Subcommittee of the Senate Commerce Committee, provided some opening remarks at the workshop.<sup>6</sup> Among other things, Senator Smith highlighted the substantial number of consumers – tens of millions in all – who use P2P file-sharing software programs to exchange files, and the need to educate these consumers about potential risks they face when using such programs.<sup>7</sup>

FTC staff has prepared this report to present information concerning the consumer protection, competition/economic, and intellectual property issues discussed at the workshop. Based on the information received in connection with the workshop and other available information, FTC staff concludes:

- P2P technology enables users to share communications, processing power, and data files with other users. Use of P2P technology can enhance efficiency by allowing faster

file transfers, conserving bandwidth, and reducing or eliminating the need for central storage of files.

- P2P technology has a variety of applications. Currently, the most common application by far is commercial file-sharing software programs used by consumers to exchange files, such as music and movie files, with others.
- P2P technology continues to evolve in response to market and legal forces. It appears likely that the uses of P2P technology will expand in the future.
- Consumers face risks when using commercial P2P file-sharing software programs, including risks related to data security, spyware and adware, viruses, copyright infringement, and unwanted pornography.
- Many of these risks to consumers are not unique to P2P file sharing, but also exist when consumers engage in other Internet-related activities such as surfing websites, downloading software, and using e-mail or instant messaging. Workshop participants submitted little empirical evidence concerning whether the risks arising from P2P file sharing are greater than, equal to, or less than these risks from other Internet-related activities.
- Industry should decrease risks to consumers through technological innovation and development, industry self-regulation (including risk disclosures), and consumer education.
- Government should investigate and bring law enforcement actions when warranted, work with industry to encourage self-regulation, and educate consumers about the risks associated with using P2P file-sharing software.
- Policymakers should balance the protection of intellectual property and the freedom to advance new technologies, thereby encouraging the creation of new artistic works as well as economic growth and enhanced business efficiency.
- Because the United States Supreme Court's decision this summer in Metro-Goldwyn Mayer Studios v. Grokster, Ltd.,<sup>8</sup> likely will clarify the legal framework applicable to P2P file sharing and may have a profound effect on the future structure and impact of P2P file-sharing programs, FTC staff does not believe that it would be prudent at this time to make specific recommendations regarding the intellectual property issues raised by P2P file sharing.



## I. INTRODUCTION

This report presents information concerning the issues discussed at the FTC's public workshop entitled "Peer-to-Peer File-Sharing Technology: Consumer Protection and Competition Issues," which was held on December 15 and 16, 2004. Part I provides a brief overview of the issues covered in the report. Part II explores what P2P technology is and how it works, as well as its current and potential future uses. Part III addresses (A) some of the risks consumers may face when using P2P file-sharing technology, including risks that relate to data security, spyware and adware, viruses, copyright infringement, and unwanted pornography, (B) efforts to address these risks, including the development of new technologies and disclosures to better inform consumers of these risks, and (C) government efforts to protect consumers through law enforcement, education programs, and other measures. Part IV discusses the economic impact of P2P file-sharing technology, including a description of the intellectual property law issues related to P2P file-sharing programs used to distribute music. Part V provides a brief conclusion.

## II. P2P TECHNOLOGY AND ITS USES

### A. What Is P2P?

Broadly defined, P2P technology is a distributed computing software architecture that enables individual computers to connect to and communicate directly with other computers.<sup>9</sup> Through this connection, computer users (known as "peers") can share communications, processing power, and data files. With respect to file sharing specifically, P2P technology allows "decentralized" sharing. That is, rather than storing files in a central location to which individual computers must connect to retrieve the files, P2P technology enables individual computers to share directly among themselves files stored on the individual computers.<sup>10</sup> Some workshop participants emphasized that P2P file-sharing programs themselves do not perform the sharing or copying of files; rather, they employ a protocol that facilitates communication between the two peers who wish to share or copy a particular file.<sup>11</sup> Peers can share myriad types of files, including audio, video, software, word processing, and photographs.<sup>12</sup>

By eliminating the need for a central storage point for files, P2P file-sharing technology allows for faster file transfers and conservation of "bandwidth," *i.e.*, the capacity to transmit information to and from a computer.<sup>13</sup> In addition, because P2P technology decreases the need for businesses and consumers to store files on their hard drives, it can lower costs by conserving on storage requirements and saving on maintenance and energy costs related to data retrieval, sharing, and processing.<sup>14</sup>

## **B. How Does P2P Work?**

### **1. Napster**

P2P technology can operate in many different ways,<sup>15</sup> based on the particular use being made of the technology. To illustrate how P2P technology can work, one panelist described how three different types of commercial file-sharing programs have worked, starting with one of the earliest of such programs – the “original” Napster.

First introduced circa 1999, Napster operated using a centralized directory, or index of files available for sharing.<sup>16</sup> The directory was located on a centralized server (or set of servers), to which various individual user computers – or “peers” – could connect via an Internet connection.<sup>17</sup> An individual user could download the Napster software, connect to the server, and then send a query for a particular file she wanted to obtain – such as a song title.<sup>18</sup> The server would respond with information indicating which other peers had the file.<sup>19</sup> The user who made the query could then request that file directly from the other peer, which would respond by providing the file itself.<sup>20</sup> The original Napster ceased operations shortly after the U.S. Court of Appeals for the Ninth Circuit’s decision in A&M Records, Inc. v. Napster, Inc.<sup>21</sup>

### **2. FastTrack Protocol**

According to a participant, after the Napster decision file-sharing programs largely moved away from the central-server model.<sup>22</sup> Many of the newer programs use the FastTrack protocol, which uses a two-tiered system consisting of “super nodes” and ordinary nodes rather than a central server.<sup>23</sup> Each node consists of an individual user’s computer.<sup>24</sup> “Super nodes” essentially perform the directory role that the centralized server provided in the original Napster architecture.<sup>25</sup> Using the file-sharing software, an ordinary node connects to a super node and sends a query for a file, and then the super node checks its index of files and sends the ordinary node a list of any matches.<sup>26</sup> The user can then click on a match to establish a direct peer-to-peer connection and obtain the file from the selected peer.<sup>27</sup>

### **3. BitTorrent**

Finally, the panelist described how the BitTorrent program works. Strictly speaking, BitTorrent does not involve sharing files, but rather bits of files that add up to a whole.<sup>28</sup> In essence, one peer has a particular file and acts as a “seed” node.<sup>29</sup> The seed node then breaks the file into a number of pieces of equal size and distributes them to several other peers that are seeking to obtain the file; each peer receives one piece.<sup>30</sup> Those other peers then exchange pieces with each other until each peer has obtained a full copy of the original file.<sup>31</sup>

Because the seed node sends only one copy of the file – in pieces, to the other peers – the “sharing” process is more efficient and requires less bandwidth than if the seed node had to send a full copy of the file to each of the other peers.<sup>32</sup> BitTorrent’s ability to conserve bandwidth in this manner makes it feasible to download much larger files – such as computer operating

systems, movies, and television programs – that are more cumbersome to share using other P2P file-sharing programs.<sup>33</sup>

The search mechanism for BitTorrent also works differently than the search mechanism in the original Napster or in a FastTrack application. Instead of searching other users' hard drives, a BitTorrent user must search for a website that has the so-called "torrent" file associated with the file the user ultimately wants to download.<sup>34</sup> The "torrent" file contains information about the location of the computer with the "seed" node for a particular file, and the location of the server, known as a "tracker," that is currently coordinating the exchange of pieces of that file.<sup>35</sup> Clicking on the "torrent" file allows a BitTorrent user to join this exchange process.<sup>36</sup> As soon as the user downloads a piece of the desired file, BitTorrent automatically begins uploading that piece to other users who are looking for that file.<sup>37</sup>

## **C. Current Uses of P2P Technology**

P2P technology is used in a variety of ways by businesses, consumers, government agencies, academic institutions, and others, to distribute quickly large amounts of information.

### **1. Commercial Uses**

Current commercial uses of P2P technology include the licensed distribution of games, movies, music, and software.<sup>38</sup> One commenter stated, for example, that major video game publishers distribute their games through P2P and have achieved a total of more than 200 million downloads.<sup>39</sup> In addition, some independent movie studios, music recording labels, and artists have licensed copyrighted material and promote and sell their products over P2P networks.<sup>40</sup> Other commercial applications include video streaming, video on demand, Instant Messaging ("IM"), and use of computers to provide telecommunication service through voice-over-Internet protocol ("VOIP").<sup>41</sup> Further, P2P technology is used to back up storage of documents and other digital content, and for intra-business collaborative project management.<sup>42</sup>

But by far the most common use of P2P technology – and the use generating the most attention – is consumers downloading P2P file-sharing software programs in order to access files stored on other consumers' computers, including music, movies, television programs, video games, software, and pornography.<sup>43</sup> Using these programs, consumers also can make their own personal files available for sharing with other users.<sup>44</sup>

### **2. Non-commercial Uses**

Panelists and commenters also described several academic and other non-commercial "collaborative" applications of P2P technology. The LionShare project at Pennsylvania State University, for example, is a closed P2P network designed to facilitate academic research.<sup>45</sup> The network is secure, and all users must be authenticated and authorized in order to access it.<sup>46</sup> As described by one participant, LionShare "merges secure and expanded electronic file-exchange

capabilities with information gathering tools into a single, open-source application,” enabling staff and students to search for information both within the network and among standard information repositories that exist outside the network.<sup>47</sup> Faculty and students also can publish their work on the network.<sup>48</sup>

P2P technology also is being used in certain data processing functions in the applied mathematics and medical research contexts.<sup>49</sup> Other uses include the non-commercial distribution of software, writing, art, photography, or other data by publishers who do not wish to charge for the content – for example, the free distribution of electronic books to enhance literacy, and the dissemination of free academic curricula such as music lessons from a college of music.<sup>50</sup>

Applications of P2P technology by government include NASA’s use of BitTorrent as a download mechanism for its World Wind program, which allows users to access NASA satellite imagery to “virtually” visit any place in the world.<sup>51</sup> NASA’s Jet Propulsion Laboratory and the University of Maryland have also begun using P2P technology, and Boeing is using the technology in developing combat support software systems for the U.S. Army.<sup>52</sup>

## **D. Future Uses of P2P Technology**

Participants stated that P2P file-sharing technology can substantially reduce costs and enhance efficiencies. In the business environment, for example, using P2P technology to eliminate the need to house data, such as accounting data and inventory data, in centralized servers can save on storage space and costs.<sup>53</sup> Such use also can yield savings on maintenance and energy costs related to data retrieval, sharing, and processing.<sup>54</sup> P2P also facilitates faster downloading and exchange of files, which benefits users.<sup>55</sup>

Panelists reported that these aspects of P2P technology hold promise for novel future applications. For example, one panelist stated that P2P provides the potential to utilize the “untapped resources” of computers in people’s homes and offices, including unused storage, central processing unit capacity, and bandwidth when the computers are not in use.<sup>56</sup> Although participants generally stated that P2P technology will lead to novel applications, little information was provided describing what these applications are likely to be and what economic effects they are likely to have.

A panelist emphasized that the benefits of P2P technology appear to increase as the number of users increases.<sup>57</sup> Economists call such a phenomenon “network effects” – that is, certain products become more useful as more and more people use them.<sup>58</sup> The viability of future applications likely will depend in part on how P2P technology’s benefits balance out compared to its potentially significant side effects, such as copyright infringement and other risks, including viruses and spyware.<sup>59</sup>

## **E. Who Uses P2P?**

As discussed above, P2P technology has numerous current and potential uses. Less clear is who uses the technology. Workshop participants did not provide demographic data relating to the number and characteristics of users of P2P technology generally.

The workshop did yield data, however, pertaining to one type of P2P application – commercial file-sharing software programs. According to one panelist, 50-60 million individual users have used such programs.<sup>60</sup> In the month of October 2004 alone, one commenter stated, approximately 2.4 million users were connected to programs running on the FastTrack protocol (including KaZaA and Grokster), trading 1.4 billion files; another 1.9 million users were connected to programs on the eDonkey network, trading 217 million files.<sup>61</sup> Programs running on FastTrack and eDonkey do not represent all of the commercial file-sharing programs currently available, and do not include one of the most popular – BitTorrent.<sup>62</sup>

Notably, P2P file sharing comprises a large percentage of current Internet traffic. One panelist provided data indicating that in the first half of 2004, more than 60% of all Internet traffic in the United States consisted of file sharing through P2P software programs.<sup>63</sup> Several participants also stated that the amount of P2P file sharing continues to rise.<sup>64</sup>

Demographic data on P2P file-sharing program users appears to be sparse, however. Some commenters stated that the largest group of P2P users appears to be individuals in their late teens and twenties.<sup>65</sup> One panelist estimated that children and “tweens” (i.e., children aged 8 or 9 to 12 years old) have a significant presence as well.<sup>66</sup> Another commenter opined that the demographics of individual P2P users likely track the demographics applicable to the particular type of content being shared.<sup>67</sup> For example, if the content being shared is primarily music, then the user group will reflect the demographics of the average music buyer. None of these participants provided empirical data, however, to support their conclusions concerning who uses P2P file-sharing programs.

## **III. CONSUMER PROTECTION ISSUES**

### **A. Consumer Risks Related to Downloading and Using P2P Software Programs**

Consumers may face a number of risks when they download and use commercial P2P file-sharing software programs. When they download a particular program, they also may download other software, such as spyware or adware, that is bundled with the file-sharing program. Some users may not understand the configuration of the P2P file-sharing software’s “shared folder” and may inadvertently share sensitive personal files residing on their hard drives. Users also may receive files with viruses and other programs when sharing files using P2P programs, and these viruses could impair the operation of their personal computers. Individuals may receive or redistribute files that may subject them to civil or criminal liability under laws governing

copyright infringement and pornography. Finally, because of the way some files are labeled, users, including children, may be exposed to unwanted pornographic images.

## **1. Identification and Quantification of Specific Risks**

### **a. Data Security: Inadvertent File Sharing**

Some workshop participants stated that use of P2P file-sharing software poses a security risk to users' personal information, such as tax returns, financial records, health records, business records, e-mail, and other personal and private material stored on their computers.<sup>68</sup> This risk typically arises when consumers using P2P file-sharing software unintentionally make their personal files available for sharing. This can occur, for example, when the file-sharing software automatically selects certain folders of documents as available for sharing, and the consumer is not aware of how the software works.<sup>69</sup> Inadvertent sharing can have significant irremediable effects: once personal information is shared, a user cannot retrieve it and the personal information can continue to be shared.<sup>70</sup>

Two panelists at the workshop described a study they conducted in 2002 involving the KaZaA file-sharing user interface. The study revealed that inadvertent file sharing was prevalent among KaZaA users, and found significant confusion, even among experienced users, as to which files KaZaA was making available for sharing.<sup>71</sup> For example, users sometimes incorrectly assumed that they were not sharing any files when in fact they were sharing all files on their hard drive.<sup>72</sup>

These panelists also discussed follow-up research they conducted which suggests that the risk of inadvertent file sharing may be decreasing, but the risk varies depending on the particular file-sharing software being used. The researchers analyzed a number of popular P2P interfaces and found that KaZaA had significantly improved, and that other software, such as eDonkey, did a good job of clearly indicating to users exactly which files are being shared.<sup>73</sup> According to these panelists, there is virtually no risk of inadvertent sharing with BitTorrent because users only share the files they are downloading from someone else – there is no “search” function that allows other users to find and copy other files on the sharing user's hard drive.<sup>74</sup> Among other P2P programs, the researchers found that the risk of inadvertent file sharing varies considerably,<sup>75</sup> and some comments suggested that the risk remains significant.<sup>76</sup>

### **b. Spyware and Adware**

Consumers typically can choose between one of two versions of a particular commercial P2P file-sharing software program. First, consumers can download a free version, which generally comes bundled with other software downloaded to a user's computer along with the file-sharing program itself.<sup>77</sup> Second, consumers can pay a fee to download a version without the bundled software.<sup>78</sup> According to workshop participants, the business models of P2P file-sharing software companies typically rely on the bundling of other software with their file-sharing programs as a means of generating revenue.<sup>79</sup> The bundled software may include programs commonly referred to as “spyware” and “adware.”<sup>80</sup>

Participants explained that the software bundled with P2P file-sharing programs can have a range of effects. Some of the bundled software will cause consumers to receive ads on their computers.<sup>81</sup> Some bundled software can have deleterious effects. For example, once downloaded to a user's computer, the software can impair computer operation and performance, and even cause the computer to crash.<sup>82</sup> The software also can compromise the user's privacy, such as by facilitating the theft of personal information, monitoring of communications, and tracking of an individual's online activity.<sup>83</sup> In addition, some of the software programs use tactics to prevent users from uninstalling them, or remain active on a computer even after the user deletes the software.<sup>84</sup>

Spyware that causes these same problems can also be hidden in downloaded "shared" files. In fact, some spyware programs, once installed on one computer, look specifically for any "shared" folder on that computer. If a "shared" folder is found, the spyware program deposits itself into that folder under an enticing filename for which consumers would likely search, such as a pop singer's name.<sup>85</sup> This enables the spyware program to take advantage of large P2P file-sharing networks in order to spread across the Internet more quickly than with other distribution methods.<sup>86</sup>

### **c. Viruses**

Participants stated that consumers who download and use P2P file-sharing software also face the risk that viruses will infect their computers. A virus is a program that a user installs unknowingly and that reproduces itself, attempts to spread itself to other computers, and can cause significant harm.<sup>87</sup> One panelist said that the risk of downloading a virus appears to be substantial, particularly given the massive number of users connected through many of the existing P2P file-sharing programs.<sup>88</sup> In addition, participants stated that some viruses specifically target P2P applications.<sup>89</sup>

Viruses can cause significant harm. For example, a panelist stated that some viruses adjust shared folders on a user's hard drive so that the user ends up sharing more files than he intends.<sup>90</sup> He also stated that other viruses create "back doors" that enable hackers to gain access to the computer at a later date.<sup>91</sup> Viruses also can destroy data files, program files, and operating files stored on the user's computer.<sup>92</sup>

### **d. Liability for Copyright Infringement**

Many participants emphasized that another risk to consumers posed by P2P file-sharing software programs is liability for copyright infringement.<sup>93</sup> Many of the files currently traded by consumers using commercial P2P file-sharing software programs are copyrighted music, movies, and games.<sup>94</sup> One commenter pointed to a 2003 study indicating that more than 98% of all music files requested on one major file-sharing network were copyrighted files.<sup>95</sup> Consumers who engage in copyright infringement may face civil and even criminal liability.<sup>96</sup>

Copyright holders have brought thousands of civil enforcement actions against individual users of P2P file-sharing programs. For example, between September 2003 and June 2005, the

Recording Industry Association of America (“RIAA”) sued more than 11,000 individuals who allegedly traded copyrighted music files illegally using P2P file-sharing software programs.<sup>97</sup> In addition, the Motion Picture Association of America (“MPAA”) has brought several rounds of copyright enforcement actions against individuals operating servers involved in file sharing through the BitTorrent, eDonkey, and Direct Connect applications.<sup>98</sup>

To establish criminal liability for copyright infringement under federal law, the government must prove that a defendant infringed a copyright willingly and for the purpose of commercial advantage or personal financial gain.<sup>99</sup> Federal authorities have brought criminal charges against alleged participants in online software piracy networks, including those that use P2P file sharing. For example, in August 2004, the U.S. Department of Justice announced “Operation Digital Gridlock,” the first federal enforcement action against criminal copyright piracy conducted over P2P networks.<sup>100</sup> This operation resulted in the seizure of more than 40 tetrabytes of pirated content from computers located in several states.<sup>101</sup> More recently, in May 2005, the Department of Justice announced another criminal enforcement action targeting individuals committing copyright infringement using BitTorrent file-sharing technology.<sup>102</sup>

## **e. Pornography**

Workshop participants described two distinct risks relating to pornography that consumers using P2P file-sharing programs may face. First, consumers, including children, may experience inadvertent and unwanted exposure to pornographic or other inappropriate materials.<sup>103</sup> Second, consumers may distribute files containing pornography, including child pornography, thereby exposing themselves to potential criminal liability. We discuss these risks separately below.

### **i. Inadvertent Exposure to Pornography**

Participants said that consumers, including children, may experience inadvertent exposure to pornographic or other inappropriate materials when sharing files through P2P.<sup>104</sup> This risk derives from the fact that P2P file-sharing software is used to trade millions of files, and some of these files are mislabeled using innocuous or even deceptive keywords that do not reveal their pornographic content.

A study conducted by the General Accounting Office (“GAO”) in 2002 examined this risk.<sup>105</sup> Among other things, the study examined the risk of inadvertent exposure of juveniles to pornography through the use of P2P networks.<sup>106</sup> To assess this risk, the United States Customs Service, on behalf of the GAO,<sup>107</sup> conducted searches on KaZaA using innocuous keywords of the type a juvenile likely would use when searching on a P2P network, such as names of popular singers, actors, and cartoon characters.<sup>108</sup> Of the files displayed in response to these searches, 49% contained a form of pornography: 34% contained adult pornography, 1% contained child pornography, and 14% contained cartoon pornography.<sup>109</sup> Based on these findings, the GAO concluded that juvenile users had a significant risk of exposure to pornography when using P2P file-sharing programs.<sup>110</sup>

Participants did not submit any more recent data on the extent of this risk. Several members of Congress have asked the GAO to conduct further research to update its previous report.<sup>111</sup> The



GAO also intends to include an examination of additional issues, such as the effectiveness of filters on P2P networks.<sup>112</sup> FTC staff believes that the GAO's plan to update and expand on its P2P file-sharing research would be very useful.

## **ii. Liability for Distributing Pornography**

Consumers using P2P file-sharing programs may distribute files containing pornography, including child pornography.<sup>113</sup> Some consumers may distribute such files unintentionally with other users. This may occur, as one commenter explained, because P2P file-sharing software often is configured so that any file a user downloads is automatically made available for redistribution to anyone else using the software.<sup>114</sup> Thus, for example, a user who enters an innocuous search term may unintentionally download pornographic files, and these files then may be distributed to others.<sup>115</sup>

Other consumers may intentionally share files containing pornography. An individual who intentionally distributes pornography may violate two types of criminal laws. Federal law prohibits knowingly distributing child pornography to any other person through interstate commerce.<sup>116</sup> State laws also prohibit knowingly distributing adult pornography to minors.<sup>117</sup>

Federal and state authorities have stepped up enforcement of these laws. For example, in May 2004, then-Attorney General Ashcroft announced a national law enforcement initiative aimed at the distribution of child pornography over P2P networks.<sup>118</sup> As of the time of the workshop, this initiative had yielded more than 1,000 investigations nationwide, the execution of hundreds of search warrants, and the convictions of 17 defendants.<sup>119</sup> At the state and local levels, dozens of Internet Crimes Against Children ("ICAC") task forces across the country also have targeted the distribution of child pornography using P2P file sharing. Their undercover sting operation, called "Operation Peerless," has generated more than 7,500 criminal cases nationwide.<sup>120</sup>

## **2. Comparison of Risks Posed by P2P File Sharing and Risks Posed by Other Internet Technologies**

Participants appeared to agree that the risks consumers face when downloading and using P2P software are the same type of risks consumers face when using other technologies on the Internet, such as e-mail.<sup>121</sup> However, participants disagreed on whether these risks from use of P2P file-sharing programs were greater than, equal to, or less than the risks from use of these other technologies.

Some participants asserted that the risks from P2P file-sharing programs were greater than from these other technologies. For example, one commenter stated that a recent study demonstrated that P2P file sharers were substantially more likely to be infected with spyware than Internet users in general.<sup>122</sup> Another commenter stated, however, that bundling of spyware and adware with P2P software has decreased as consumer awareness and the availability of spyware removal tools have grown.<sup>123</sup>

Other participants argued that these risks are the same or similar for P2P file-sharing programs as compared to other technologies on the Internet.<sup>124</sup> One participant, for example, argued that the risk of receiving a virus through P2P file sharing is the same as receiving one through downloading a file from a website, file transfer protocol (“FTP”) server, or e-mail server.<sup>125</sup> Another argued that spyware risks are the same with the P2P file-sharing programs as with other Internet technologies, because these risks are attributable to problems with the design of Windows-based operating systems.<sup>126</sup>

Still other participants claimed that consumers face lower risks using P2P file-sharing programs than when using other technologies on the Internet. For instance, one commenter stated that, although the use of general-purpose Internet search engines and P2P file-sharing programs both expose consumers to the risk of inadvertent exposure to pornography, the risk may be greater with the use of Internet search engines because some P2P software distributors provide “family filters” to mitigate the risk.<sup>127</sup>

The workshop panelists and public comments did not provide a sufficient basis to conclude whether the degree of risk associated with P2P file-sharing programs is greater than, equal to, or less than the degree of risk when using other Internet technologies.

### 3. Consumer Awareness of Risks

The important question remains whether consumers themselves are aware of these risks. Workshop participants submitted little empirical data that would help answer this question. On the whole, however, FTC staff concludes that consumer awareness of certain risks appears to have increased, although many consumers still do not have an understanding of the full range of risks associated with downloading and using P2P file-sharing programs.

Citing the RIAA’s recent copyright enforcement actions, one panelist stated that there has been “significant growth” in consumer awareness regarding potential liability for copyright infringement for using P2P networks.<sup>128</sup> This panelist presented data showing that, prior to the first round of RIAA lawsuits in September 2003, 33% of people surveyed knew that downloading copyrighted music for free was unlawful, but that figure has increased to nearly 70%.<sup>129</sup> Similarly, but without citing empirical evidence, other participants stated that consumers generally are more aware of the risk of inadvertent file sharing than in the past.<sup>130</sup>

Participants suggested that consumers are less aware of other risks, such as the fact that when they download the P2P file-sharing software, they may also inadvertently be downloading additional software.<sup>131</sup> Although some P2P software companies may disclose the inclusion of bundled software in end user license agreements (“EULAs”), participants stated that consumers typically do not read such agreements closely before agreeing to them.<sup>132</sup> Compounding this problem, one commenter asserted, is the practice of some P2P software providers who allegedly make the false claim that their programs are spyware-free, thereby frustrating consumer awareness on this issue.<sup>133</sup>

With respect to the risk of inadvertent exposure of children to pornography, one participant stated her opinion that parents may not know that their children are viewing pornography through P2P file sharing.<sup>134</sup>

Participants suggested that the level of awareness of risks may vary based on the age of consumer. According to one commenter, teenagers generally are the most aware of the risks and the nuances of features and benefits of P2P software programs.<sup>135</sup> According to this commenter, parents have the next greatest level of awareness, and pre-teen children the lowest level.<sup>136</sup>

To the extent that users remain unaware of some of the risks associated with P2P file-sharing software programs, there was general agreement that improved risk disclosure would help educate consumers about these risks.<sup>137</sup> FTC staff anticipates that new industry disclosures – implemented after the workshop and discussed in Part III.B.2 below – will contribute to increased consumer awareness.

## **B. Industry Responses to P2P File-Sharing Risks**

### **1. Development and Deployment of Technologies**

To protect against the risks associated with downloading and using P2P file-sharing programs, software companies have developed programs that block access to P2P programs altogether. For those consumers who wish to engage in P2P file sharing, other technologies can help reduce the risks associated with using these programs. Some distributors of P2P file-sharing software have made structural and other changes to the programs themselves to reduce risks such as inadvertent sharing of files containing sensitive information. Others offer filters and other tools that can screen files for spyware, viruses, copyrighted materials, and pornography. Some of these filters operate from the desktop level (that is, from the user's computer itself); others, such as the copyright filter, operate at the network level to block files from reaching individual users' computers in the first place.

None of these technologies eliminates the risks altogether, however.<sup>138</sup> In addition, many of them, such as anti-virus and anti-spyware programs, must be updated regularly to be effective.

#### **a. Blocking Technologies to Prevent Downloading of P2P Software**

Software firms have developed programs designed to enable users to block the downloading of P2P file-sharing software onto their computers. Some of these programs will also prevent users from operating a P2P file-sharing program that already has been installed. These programs are often used by parents to control their children's use of home computers.

For example, some Internet service providers ("ISPs") offer tools that allow parents to block their children from accessing "known" websites from which P2P file-sharing software could be downloaded.<sup>139</sup> In some cases, these tools operate at the network level, so that the blocking feature operates regardless of whether the child logs on to the ISP account from home or elsewhere.<sup>140</sup>

In other cases, the blocking tool operates only at the desktop level. One such program works by identifying all programs installed on a PC, including P2P file-sharing programs. Parents can

then choose to deny access to any P2P programs found.<sup>141</sup> Another program uses a technology that recognizes whether a program being started is a P2P file-sharing program, and if so, blocks it from running – unless a parent overrides the blocking by using a password. Parents receive an e-mail each time a child is blocked from accessing the program, each time the password is used, and each time an attempt to disable the program is detected.<sup>142</sup>

### **b. Structural Changes to Address Risk of Inadvertent File Sharing**

As noted earlier, the risk that a consumer will inadvertently share personal files varies depending on the particular file-sharing software being used.<sup>143</sup> The risk may depend, for example, on how the particular program designs the file-sharing process and how clear it is to consumers which files are being shared.

According to a panelist, many P2P file-sharing distributors have changed their programs expressly to reduce this risk.<sup>144</sup> For example, some programs have been altered so that, upon installation, they create an empty “shared” folder.<sup>145</sup> Users then must actively move files and folders into it, or designate additional folders, for these files or folders to be “shared.” Many file-sharing programs also now have a feature that clearly lists all files and folders available for sharing.<sup>146</sup>

Some P2P file-sharing programs also now offer additional features that can help reduce access by others to sensitive files. For example, some programs offer a “private” sharing feature, in which users can only share files with known individuals and are not connected to the larger file-sharing network at all.<sup>147</sup> Other programs offer a feature that prevents other program users from “browsing” through one’s list of files available for sharing.<sup>148</sup> These other users would still be able to find individual files that match a search keyword, but would not be able to actually view a list of shared files. Thus, in many cases, other users could not obtain files unless they searched for a keyword that happened to match an existing filename.

These efforts may not eliminate the risk of inadvertent file sharing, however. One panelist expressed concern that there may be an increasing number of P2P file-sharing programs that automatically scan the user’s hard drive and select folders and files to be shared, without users being aware of this happening.<sup>149</sup> Moreover, some users may still be using older versions of P2P file-sharing programs, which have a greater potential for inadvertent sharing.<sup>150</sup>

### **c. Anti-spyware Technology**

None of the workshop panelists was aware of any anti-spyware tools having been incorporated into P2P file-sharing programs themselves, or designed especially to work with such programs.

One panelist explained that a number of companies offer anti-spyware “scanner” programs, many of them free, that will scan the files already stored on a consumer’s hard drive for the presence of spyware.<sup>151</sup> If a scanner program detects spyware, whether installed along with a

P2P file-sharing program or by files obtained through “sharing,” the program typically will offer the consumer the choice to disable the spyware, remove it, or leave it alone.<sup>152</sup> In addition, some ISPs offer anti-spyware tools that perform quick scans of files stored on a user’s hard drive at frequent intervals, such as every 15 minutes.<sup>153</sup> According to this panelist, however, some spyware and adware programs are able to detect when they have been removed, and will then reinstall themselves.<sup>154</sup>

## **d. Filtering Technologies to Address Other Risks**

### **i. Viruses**

Workshop participants generally agreed that the anti-virus programs many consumers have will not routinely scan for viruses in files being downloaded through a file-sharing program.<sup>155</sup> As one panelist explained, many anti-virus programs, including those typically provided by ISPs, only scan e-mails and e-mail attachments for viruses.<sup>156</sup> Even those anti-virus programs that scan files as they are being downloaded – from a webpage, for example – often do not monitor the computer ports<sup>157</sup> used for file sharing,<sup>158</sup> and hence would not monitor files being downloaded through a file-sharing program.

Some P2P file-sharing programs, however, offer the ability to instruct an already installed anti-virus program to work with the P2P file-sharing program, so that the anti-virus program also scans any “shared” files the consumer downloads for viruses.<sup>159</sup> In addition, at least one P2P file-sharing program includes a built-in anti-virus program that automatically scans downloaded “shared” files.<sup>160</sup> Some ISPs also provide anti-virus programs that scan all files downloaded, including those obtained with file-sharing programs, either at the time these files are being downloaded, when they are opened, or both.<sup>161</sup>

P2P file-sharing programs may also offer another tool known as an “IP blocklist” to combat viruses. Instead of filtering files, this tool filters IP numbers. It is designed to prevent users from connecting to computers known to make harmful files available for “sharing,” such as those containing viruses.<sup>162</sup> This “IP blocklist” works by blocking a P2P file-sharing user from connecting to the Internet addresses, or IP numbers, associated with such computers.<sup>163</sup> Consumers can choose to unblock any IP number, to not use the blocklist at all, or to use their own blocklist.

### **ii. Copyright Infringement**

One panelist described technology that blocks users of file-sharing software from downloading copyrighted materials.<sup>164</sup> This technology creates a unique “fingerprint” for each copyrighted movie, musical work, or game, based on objective measurements of various attributes of the file. For music files, for example, the fingerprint might be based on measurements of the way the audio sounds to humans.<sup>165</sup> The filter then blocks transmission of any file with that fingerprint.<sup>166</sup> This filtering technology currently operates at the network level, as opposed to the desktop level, and is being marketed primarily to universities, corporations, and other entities operating their own networks for Internet access.<sup>167</sup>

At the workshop, several representatives of the music and movie industries asserted that P2P distributors could include these copyright blocking filters in their programs, thus making the filters operational at the desktop level.<sup>168</sup> However, none identified any mechanism for doing so in a way that would preserve the decentralized nature and attendant benefits of the P2P technology. Several participants pointed out that filtering for copyrighted materials would require a huge database and massive processing, and that these capabilities could not be incorporated into small P2P programs for operation at the desktop level.<sup>169</sup> In light of this disagreement between the music and movie industries and the P2P file-sharing industry, one distributor of a file-sharing program proposed that both sides sponsor a study by an impartial group of scientists to determine whether decentralized copyright filters would be viable.<sup>170</sup>

### iii. Pornography

Panelists also described several tools available to help reduce the risk of inadvertent exposure to pornography when using file-sharing software. The primary tool available at present is keyword filtering software that consists of words or phrases likely to be used in connection with pornography.<sup>171</sup> This filter is used to screen out from search results files in which the names or descriptive data contain the specified words or phrases. Some P2P file-sharing programs offer pornography keyword filters with pre-selected keywords, and also provide tools for parents and other users to specify additional keywords.<sup>172</sup> However, as discussed below, keyword filters have substantial limitations in excluding pornography.

Keyword filters also can be used to detect attempts to transmit child pornography over file-sharing networks. An initiative called P2P Patrol, being developed jointly by various P2P file-sharing companies and law enforcement authorities, uses a keyword filter that consists of a list of terms known to be associated with child pornography.<sup>173</sup> If a P2P file-sharing user tries to do a file search using one of these terms, a warning appears stating that the specified search term is associated with child pornography and that receipt, reproduction, or distribution of such material is a crime. The warning states further that the individual's search for or downloading of such material will not be private, and asks whether to continue or cancel the search.

A downside of keyword filters is that they filter only by using terms in the file's name, and do not filter by examining the actual contents of the file. They therefore depend upon the user to accurately describe the file's content. Consequently, keyword filters can be easily evaded by changing a file's name or descriptive data.<sup>174</sup>

Other types of filters that may reduce the risk of inadvertent exposure to pornography files also are being developed. Some P2P file-sharing programs offer a filter designed to block entire categories of files – such as videos or photos – that are more likely to contain pornography than other file types.<sup>175</sup> Another company is exploring the application of digital fingerprinting technology (described in Part III.B.1.d.ii above) to create a filter for pornographic images.<sup>176</sup> Finally, technology is under development that would examine the actual images in photos or videos contained in a file, and apply specified rules, or algorithms, to determine whether the images are likely to contain pornography.<sup>177</sup>

In sum, industry is developing technologies that can help reduce many of the risks associated with P2P file sharing. The FTC staff encourages continued efforts in this regard. Because, however, none of the existing technologies can eliminate the risks altogether, the FTC staff believes that consumers would benefit from clear and conspicuous disclosure of these risks.

## 2. P2P Software Industry Risk Disclosures

At the time of the workshop, some P2P software distributors were disclosing on their websites or in their licensing agreements that their software comes bundled with other software and/or that the sharing of copyrighted files may be illegal.<sup>178</sup> Other risks were not being disclosed at all, according to some commenters, including the risks of mislabeled files containing pornography or of the potential legal liability that P2P users may face.<sup>179</sup>

Whether existing disclosures adequately informed consumers of these and other risks associated with P2P file sharing was hotly contested at the workshop.<sup>180</sup> Some participants sharply criticized current disclosures as inadequate.<sup>181</sup> As discussed in Part III.A.3 above, some argued that the software companies provide notice that is virtually inaccessible, buried in EULAs that are presented only once (upon initial installation of the software) and which users typically overlook.<sup>182</sup> In addition, some argued that the warnings concerning potential harm or liability often are contradicted by other claims that use of the software is safe or legal.<sup>183</sup>

Several members of Congress have voiced similar concerns about the industry's disclosure practices. In May 2004, U.S. Senators Orrin Hatch, Patrick Leahy, Ted Stevens, Barbara Boxer, and Gordon Smith wrote to the FTC expressing concern that the failure of P2P file-sharing programs to disclose risks might violate Section 5 of the FTC Act.<sup>184</sup> In June 2004, the Commission responded to the Senators that the failure to disclose these risks is unlikely to violate Section 5 of the FTC Act, but that consumers would be better served if distributors of P2P file-sharing programs presented risk information more clearly and conspicuously.<sup>185</sup> The Commission stated that it would therefore encourage the ten largest distributors to improve their disclosure of risk information, provide them with a guidance document addressing how to disclose information in an online context, and meet with the industry trade associations regarding improving disclosures.<sup>186</sup>

At the workshop, P2P file-sharing program representatives announced new initiatives designed to provide clear and conspicuous risk disclosures to consumers. These initiatives had resulted in part from the Commission's efforts to encourage the industry to adopt risk disclosures as best practices.

A representative of the Distributed Computing Industry Association ("DCIA") described a set of standardized disclosures that P2P software firms that are members of the Consumer Disclosure Working Group ("CDWG") promised to use.<sup>187</sup> The disclosures would include a warning about copyright infringement that would be "prominently displayed" each time a user installs a new version of the P2P software developed and distributed by one of the participating companies.<sup>188</sup> In addition, a link to more information about P2P risks would be "prominently displayed" in a framed message box which would appear "above the fold" on the home pages of

participating P2P software companies, and also would appear each time a user opened the P2P software.<sup>189</sup> Users who click on the link would be taken to a risk disclosures page identifying five specific risks: copyright infringement, data security, pornography, spyware, and viruses.<sup>190</sup> A copy of the CDWG's disclosures is attached to this report as Appendix B.

According to the DCIA, all new versions of P2P software distributed by participating companies will include the new disclosures.<sup>191</sup> As such, the disclosures would appear each time a user downloads a new version.<sup>192</sup> However, consumers who already have downloaded and continue to use older versions of the software would not be provided with the disclosures.<sup>193</sup>

Similarly, a representative of P2P United (another trade association representing P2P software distributors) stated that its members would implement consumer advisory banners and text boxes with embedded links to additional risk information.<sup>194</sup> The banners and text boxes would appear on the home page of each member company's website and, after a user installed the software, each time the user opens the program.<sup>195</sup> The association also stated that it planned to conduct an online advertising campaign to disseminate information to consumers about its advisories.<sup>196</sup> A copy of P2P United's proposed disclosures is attached to this report as Appendix C.

Shortly before the workshop, the Commission sent letters to interested members of Congress stating that, if implemented, these disclosures would constitute "substantial progress" in making consumers aware of the risks associated with P2P file-sharing programs.<sup>197</sup> Some workshop participants raised concerns that the proposed disclosures are not adequate. For example, one panelist stated that the risk disclosures do not clearly inform consumers that downloading copyrighted files is illegal.<sup>198</sup> Senator Smith also said that the disclosures do not adequately address risks relating to pornography and inadvertent file sharing.<sup>199</sup>

In February 2005, two months after the workshop, FTC staff conducted a review of the websites of the eleven most distributed P2P programs to determine whether they had implemented the risk disclosures as promised. The staff had indicated at the workshop that it would monitor implementation of the industry proposal.<sup>200</sup> The review revealed that only one website was providing the risk disclosures. FTC staff therefore sent letters to the other P2P file-sharing program distributors whose websites were reviewed, asking for a response within two weeks explaining why the promised disclosures were not being made.<sup>201</sup>

On March 28, 2005, FTC staff conducted another review of the eleven websites. This review revealed that all but three of these programs were making the promised disclosures about the risks of file-sharing in general, and four of the programs were providing additional information about how to use their programs to reduce these risks. FTC Chairman Deborah Platt Majoras subsequently sent letters to interested members of Congress stating that P2P file-sharing program distributors appear to have made substantial progress in conveying risk information to consumers.<sup>202</sup>

Although they delayed implementing promised website risk disclosures, industry members have made substantial progress in informing consumers of the risks associated with P2P file-sharing programs. FTC staff encourages all members of the P2P file-sharing industry to fully implement the disclosures and to make further revisions, where appropriate, to the risk disclosures in response to constructive suggestions regarding consumer understanding and in



response to changes in technology or the marketplace.<sup>203</sup> FTC staff will continue to monitor the effectiveness of industry disclosure practices.

## **C. Government Responses to P2P File-Sharing Risks**

As discussed above, consumers face numerous risks when downloading and using commercial P2P file-sharing software programs. Market responses and technological innovations should help decrease these risks. Government also can play an important role in further decreasing these risks through law enforcement, consumer education, and encouraging industry self-regulation.

### **1. Law Enforcement and Other Legal Action**

#### **a. Recent and Ongoing Law Enforcement**

At the federal level, the United States Department of Justice has the authority to bring law enforcement actions against persons who violate copyright or anti-pornography laws.<sup>204</sup> The Department of Justice and state criminal authorities have taken action to combat copyright infringement and the distribution of pornography via P2P file sharing, as detailed in Parts III.A.1.d and III.A.1.e.ii above.

Governmental authorities also have taken action to address the issue of spyware, which consumers may download inadvertently with P2P software or through shared files themselves. The FTC has brought three cases involving spyware (although none involved P2P file sharing).<sup>205</sup> In October 2004, the Commission charged a group of alleged spyware distributors with engaging in unfair acts and practices in connection with downloading spyware to consumers' computers, and in violation of Section 5 of the FTC Act.<sup>206</sup> In March 2005, the Commission charged several defendants with violating Section 5 of the FTC Act by using phony spyware detection scans to market spyware removal software that did not work.<sup>207</sup> Most recently, in May 2005, the Commission brought similar charges against operators who allegedly used phony spyware detection scans and illegal spam to market spyware removal software that did not work as promised, in violation of Section 5 of the FTC Act and the CAN-SPAM Act.<sup>208</sup> In addition, the Department of Justice has used its criminal authority to take action against individuals who have used spyware to fraudulently acquire information from consumers,<sup>209</sup> and states also have begun to bring spyware cases.<sup>210</sup> The Commission will continue to investigate purveyors of spyware and will bring action when appropriate.

#### **b. Further Law Enforcement and Related Action**

A number of participants urged the Commission to take action, under the FTC Act, against commercial P2P file-sharing software distributors for failing to disclose risks to consumers, and for making misleading or deceptive claims to consumers about their software programs.

Under Section 5 of the FTC Act, the Commission is authorized to bring cases challenging unfair or deceptive acts or practices.<sup>211</sup> Pursuant to this authority, the FTC can investigate and

prosecute false or misleading claims as deceptive under Section 5, including false or misleading claims made for P2P file-sharing programs.<sup>212</sup> In determining whether a claim is deceptive, the Commission examines the claim from the perspective of a reasonable consumer, and examines the claim in the overall context of the entire advertisement.<sup>213</sup> A claim that is literally true can nonetheless be deceptive if it creates a misleading impression.<sup>214</sup> In addition, the failure to disclose certain material information to consumers can violate Section 5.<sup>215</sup> However, Section 5 does not require the disclosure of all information that a consumer might desire.<sup>216</sup>

### **i. Failure to Disclose Risk Information**

A number of workshop participants contended that P2P software distributors have violated Section 5 of the FTC Act by failing to warn consumers of the risks associated with using P2P software, including the risks of downloading viruses, spyware, copyrighted material, and pornography.<sup>217</sup> These participants urged the Commission to take law enforcement action against those who fail to make such disclosures.<sup>218</sup>

As explained in a recent letter to members of the United States Senate, the Commission has concluded that file-sharing software distributors do not have a legal duty under the FTC Act to affirmatively disclose the risks associated with their programs.<sup>219</sup> P2P file sharing, like many other consumer technologies, is a “neutral” technology, *i.e.*, its risks result largely from how individuals use the technology rather than being inherent in the technology itself. Although it has required warnings with respect to inherently dangerous products, the Commission concluded that it was not aware of any basis under the FTC Act for requiring warnings for P2P file sharing and other neutral consumer technologies.

Nonetheless, the FTC has concluded that consumers would benefit from receiving more information about the risks associated with P2P file sharing, and it has actively encouraged industry to improve its risk disclosures to consumers.<sup>220</sup> As described above, FTC staff concludes that the P2P file-sharing industry’s implementation of new website disclosures constitutes substantial progress in conveying risk information to consumers. In addition, FTC staff intends to continue its dialogue with industry to encourage further development of industry best practices, including full implementation of proposed risk disclosure actions.

### **ii. Misleading or Deceptive Claims**

Some workshop participants also called on the FTC to take action against allegedly misleading or deceptive claims by commercial P2P file-sharing software distributors. These participants contended, for example, that companies have violated Section 5 by deceptively representing that downloads of P2P software programs are free of spyware, that spyware will not be included in the download if the user pays for an upgrade, and that the file-sharing software is “legal.”<sup>221</sup> After the workshop, the Commission received a complaint from the Center for Democracy and Technology seeking an investigation of two music download websites for allegedly claiming to offer “100% legal” downloads. The Commission will continue to monitor claims made by P2P file-sharing programs and take action where appropriate.

## 2. Consumer Education

In addition to its law enforcement activities, the government also has undertaken efforts to educate consumers about the risks associated with downloading and using P2P file-sharing software programs. The FTC, for example, issued a consumer alert in July 2003 highlighting a number of risks, including spyware and viruses.<sup>222</sup> The alert, entitled “P2P File-Sharing: Evaluating the Risks,” provides consumers with information on how to avoid becoming a victim, and also to assist them in making better informed decisions.<sup>223</sup> The Commission plans to continue its consumer education efforts and to incorporate information obtained through the workshop into those efforts.<sup>224</sup>

The U.S. Computer Emergency Readiness Team (“US-CERT”) also has released warnings on the risks of file-sharing technology.<sup>225</sup> A March 2005 “Cyber Security Tip” warns consumers that use of such technology presents a number of risks, including the installation of malicious code, exposure of sensitive or personal information, susceptibility of the consumer’s computer to attack, and exposure to legal liability.<sup>226</sup> The Tip advises that consumers can help minimize their risks by using and maintaining anti-virus software and installing or enabling a firewall.<sup>227</sup>

States, too, have been working to educate consumers – particularly children – about these risks. One workshop panelist, then-Attorney General of Virginia, described a program he created to teach middle school children and their parents about safe and responsible use of computers and the Internet.<sup>228</sup> The program teaches about the risks of P2P file sharing, including the inadvertent sharing of private files, exposure to inappropriate material, and copyright infringement.<sup>229</sup>

A number of workshop participants urged government officials to continue and expand their consumer education efforts, emphasizing that the FTC and state attorneys general have an important role to play.<sup>230</sup> One panelist emphasized the need to teach children in particular how to use technology responsibly.<sup>231</sup>

## 3. Industry Self-Regulation

As suggested in Part III.B.2 above, FTC staff believes that self-regulation by the P2P file-sharing software industry can and should play an important role in informing consumers of the risks associated with using their software. FTC staff encourages implementation of industry proposals regarding risk disclosures.<sup>232</sup> In addition, FTC staff will continue to monitor the nature and extent of such disclosures.

## 4. Legislation

Some workshop participants suggested that new laws may be needed to mandate that companies distributing P2P file-sharing programs disclose risks to consumers using their programs.<sup>233</sup> However, none of the participants stated that legislation definitely is needed at the present time.

The Family Entertainment and Copyright Act of 2005, signed by President Bush in April 2005, amended U.S. copyright law to address P2P file sharing specifically.<sup>234</sup> Among other things, the Act makes it a criminal offense under federal copyright laws to willfully distribute, through file sharing, songs or movies that have not yet been released commercially.<sup>235</sup> As with other criminal provisions of copyright law, the Department of Justice is responsible for enforcing this new law.

## **IV. ECONOMIC IMPACT OF P2P FILE SHARING: COMPETITION AND INTELLECTUAL PROPERTY ISSUES**

### **A. General Economic Effects of New Technology**

In addition to consumer protection issues, the workshop also explored the economic and competitive effects of the advent of P2P technology, with particular emphasis on the consequences of P2P file-sharing programs for the music industry. Throughout history, advances in technology have played a significant role in economic progress. Technological change results in new products and lower-cost production methods for existing products and services. In the language of economics, advances in technology enable society to use its scarce resources more efficiently and thus produce more or better goods or services. Therefore, technology is an important driver of economic growth and development. Thus, economists tell us that, other things being equal, advances in technology are generally desirable.<sup>236</sup>

Economists also tell us, however, that because other things are not in fact equal in economic life, advances in technology may generate harmful as well as beneficial effects. Assessing the net economic impact of technological change requires weighing the costs and benefits and evaluating the trade-offs. The costs and benefits, in turn, can depend greatly upon the institutional structure of existing property rights and assignment of any new legal rights to the new technology.<sup>237</sup> In short, before reaching a conclusion about the expected economic impact and social welfare effects of any advance in technology, economists must first ask what is the “price” of the new technology – *i.e.*, what adverse effects will it likely generate concurrent with its benefits – and how that “price” may vary under different legal environments.<sup>238</sup>

### **B. Asserted Effects of P2P File-Sharing Technology on the Music Industry**

P2P file-sharing programs reduce the marginal costs of distributing digital content to zero or near-zero. This feature of P2P file sharing, on the one hand, holds the promise to yield substantial benefits because of the low costs; yet, on the other hand, it also is accompanied by potentially significant undesirable side-effects such as uncontrolled free access to digital content, some of

which may be protected intellectual property (i.e., digital content to which legal rights attach), which, in turn, can have detrimental effects on the incentives to create new works.

Industries and individuals involved in the creation and distribution of intellectual property and who rely heavily on copyright protection of that property (including the music, motion picture, and software industries as well as many individual copyright holders themselves), claim that P2P file-sharing programs have, in fact, been used extensively to share copyrighted material and thus have fostered extensive copyright infringement to the detriment of copyright holders.<sup>239</sup> One panelist argued that the business model of some P2P file-sharing programs encourages illegal file sharing.<sup>240</sup> Representatives of the P2P file-sharing industry counter that P2P file sharing has numerous non-infringing uses, and some panelists argued that, even if copyright infringement occurs, over the long term, the economic benefits to society from further development and use of P2P file-sharing technology may more than offset the short-term losses to property holders from copyright infringement.<sup>241</sup> A key question for public policy, therefore, is how to balance intellectual property protection to encourage the creation of new works with the freedom for technology developers to advance new technologies that hold the promise of benefitting consumers through economic growth and enhanced business efficiency.

Panelists at the workshop examined this question in the specific context of the use of P2P file-sharing programs to trade music files.<sup>242</sup> A copyright holder may distribute music through many distribution channels, such as selling a compact disc (“CD”) through retail outlets. With a P2P file-sharing program, users can make these copyrighted materials available for download to others who use the program. Thus, consumers can either purchase the CD at retail cost or acquire a close substitute<sup>243</sup> for the CD essentially for free.<sup>244</sup>

Some workshop participants claimed that the use of P2P file-sharing programs is having a detrimental impact on the music industry by causing a decline in sales of copyrighted music,<sup>245</sup> although other participants disagreed.<sup>246</sup> Copyright holders make financial investments in artist development, marketing, and production, among other things.<sup>247</sup> One panelist argued that if the use of P2P file-sharing programs causes a decrease in sales of copyrighted music, it will also decrease the incentive for copyright holders, such as record labels, to develop, market, and produce copyrighted music.<sup>248</sup> Panelists indicated that they would expect this to result in a decreased production of copyrighted music in the future, and that this result would harm not only the record labels, but also others in the music industry, including songwriters who by law are paid 8.5 cents for each copyrighted recording sold.<sup>249</sup>

To prevent this harm, one panelist argued, the applicable legal regime must define property rights for all relevant parties involved in the production of musical composition intended for commercial sale and must structure those property rights to allow rights holders to enforce them to the maximum extent practically possible.<sup>250</sup> In order that long-run investment decisions not be distorted, the panelist stated that the legal regime must ensure that all costs associated with the creation (artists), production (manufacturers), and sale (distributors) of musical composition are recoverable.<sup>251</sup>

As a solution, this panelist proposed joining P2P file-sharing technology with some combination of filtering technology, digital rights management technology (“DRM”), and negotiation of licensing agreements carried out by collectives of copyright holders and P2P

software providers.<sup>252</sup> According to the panelist, both filtering and DRM technologies are currently effective.<sup>253</sup> Moreover, he said, collective negotiation of licensing agreements internalizes and reduces (albeit imperfectly) transaction costs that otherwise prevent successful bargaining, and thus competition policy should accommodate such collaborations among competitors.<sup>254</sup>

Other panelists argued that filtering and DRM technologies do not provide a solution. One panelist argued that effective filtering is neither technically feasible nor economically feasible.<sup>255</sup> In addition, he argued that there is no currently operational DRM system and, even if one is developed, people may be able to design file-sharing programs that circumvent it.<sup>256</sup>

Other panelists asserted that the music industry's sales-based revenue model needs to move into the digital age.<sup>257</sup> Some panelists thought that lawful access to full, unfettered, DRM-free file sharing was a necessity and that, without it, there have been fewer licensed transmissions of fewer works, and therefore fewer royalties than otherwise may have been earned.<sup>258</sup> Thus, one panelist urged the creation of a single unified digital transmission right, subject to a statutory license, to replace the reproduction, public performance and distribution rights for purposes of digital transmissions; royalties would be paid on a census of all licensed transmissions.<sup>259</sup>

Other workshop participants argued that music sales have not declined or have even increased since the advent of P2P file-sharing programs.<sup>260</sup> In addition, some participants asserted that if music sales have declined during this period of time, it may be due to causes other than P2P file-sharing programs.<sup>261</sup>

Moreover, some participants stated that P2P file-sharing programs may have a positive impact on music sales by some artists and may increase overall sales in the long run. The crux of their argument is that P2P file-sharing programs expand the music market to reach a greater number of potential listeners.<sup>262</sup> Absent these programs, they argue, some listeners would not have known about some artists and therefore would not have purchased their copyrighted works anyway. According to these panelists, trading copyrighted works through P2P file-sharing programs therefore does not necessarily constitute lost sales.<sup>263</sup> Moreover, because P2P file-sharing programs expose users to new artists,<sup>264</sup> use of the programs can expand the artists' fan base and generate revenue from future purchases of recorded music, increased concert attendance, or greater sales of related merchandise.<sup>265</sup> For instance, one artist explained that to generate interest in his work, he offered all of the music on his first album for free to anyone who wished to remix his music, and "remixers" around the globe used his tracks.<sup>266</sup>

### **C. Continuing Evolution of P2P File-Sharing Programs**

Although panelists debated at length the effects of P2P file-sharing programs – both on the economy in general and on the music industry in particular – this report draws no new conclusions on the subject. Two factors warrant this outcome. First, the technology itself continues to evolve. Workshop participants described new business models for distributing copyrighted music that are still emerging and that may substantially affect the music industry. Legal P2P file-sharing services such as INTENT MediaWorks, the new Napster, and others offer new marketing models for artists. With INTENT, for example, copyright holders contract

with INTENT to sell or distribute their material for free through the P2P network.<sup>267</sup> Moreover, there are new initiatives, such as the P2P Revenue Engine, that are designed to help compensate copyright holders when material is downloaded over P2P networks.<sup>268</sup> These business models are new and their success may be contingent in part on the efficacy of DRM, so it will require some time to assess their impact.

Second, and more significantly, there was a consensus among panelists at the workshop that pending copyright infringement litigation involving P2P file-sharing program distributors could have a dramatic effect on these programs and the music industry going forward. As described in Part III.A.1.d above, the music industry has sued thousands of individual users of P2P file-sharing programs for copyright infringement. In these cases, the copyright holders have alleged so-called “primary” liability for copyright infringement, *i.e.*, a user, without permission from the copyright holder, causes a copy of a copyrighted work to be reproduced or distributed.<sup>269</sup> For example, a P2P user who causes a copy of a copyrighted work to be transmitted through P2P file-sharing software is liable for direct copyright infringement, as is the user who obtains the copy through the transmission.<sup>270</sup>

The music and motion pictures industries also have sued the distributors of certain P2P file-sharing programs for copyright infringement.<sup>271</sup> In these cases, copyright holders have alleged so-called “secondary” liability for copyright infringement, *i.e.*, the P2P file-sharing program distributor would be liable even though it did not directly engage in copyright infringement.<sup>272</sup>

There are two types of secondary liability for copyright infringement. The first is contributory infringement. This type of infringement occurs if one has knowledge of direct infringement by another and materially contributes to that infringement. An example would be a video store renting a movie to someone it knew would make unauthorized use of the movie.<sup>273</sup> The second type of secondary liability is vicarious liability, which occurs if one has the right and ability to supervise or control the infringing activity of another and receives a direct financial benefit from that activity. An example would be a dance hall operator who hired a band to play and the band plays musical compositions without authorization from the copyright owner.<sup>274</sup>

The Supreme Court articulated standards for secondary liability for copyright infringement more than twenty years ago in the seminal “Sony-Betamax” case.<sup>275</sup> In recent years, some courts applying these standards have concluded that certain P2P file-sharing program distributors were liable for secondary copyright infringement.<sup>276</sup> Other courts, however, have concluded that certain other P2P file-sharing program distributors were not liable for secondary copyright infringement.<sup>277</sup>

In the Grokster case, currently pending before the U.S. Supreme Court, the Court is considering how standards for secondary liability for copyright infringement should be applied in the P2P file-sharing program context. In that case, the Ninth Circuit Court of Appeals upheld the district court’s ruling on summary judgment that certain file-sharing software providers, including Grokster, were not liable for either contributory infringement or vicarious liability because they did not have reasonable knowledge of specific infringement and did not have the right and ability to supervise infringing P2P users.<sup>278</sup> The question for review is whether the Ninth Circuit erred in holding that providers of file-sharing software cannot be held liable for secondary copyright infringement even though the vast majority of uses of the providers’

networks constitute copyright infringement.<sup>279</sup> The Court heard oral argument on this issue in March 2005, and a decision is anticipated early in the summer of 2005.

FTC staff anticipates that the Supreme Court's imminent decision in Grokster likely will clarify, at least to a degree, the legal framework applicable to P2P file sharing, and therefore may have a profound effect on the future structure of P2P file-sharing programs.<sup>280</sup> Any resulting changes in structure may, in turn, have a significant effect on the future impact of such programs in the marketplace. Given the legal uncertainties pending the Court's decision, FTC staff concludes that it would not be prudent to draw conclusions or make recommendations regarding the intellectual property issues raised by P2P file sharing.

## V. CONCLUSION

The FTC workshop provided valuable insight into the consumer protection and competition issues surrounding the use of P2P file-sharing programs. It also provided a forum to explore current controversies relating to the proper application and scope of copyright laws concerning P2P file-sharing programs.

With respect to consumer protection, participants explored what P2P file-sharing technology is, how it works, and what risks consumers may face when using this technology. Panelists and commenters also discussed efforts by both the private sector and government to address some of these risks. FTC staff encourages the P2P file-sharing industry to continue its efforts to decrease these risks through technological innovation and development, industry self-regulation (including risk disclosures), and consumer education. In addition, FTC staff believes that government should continue to investigate and bring law enforcement actions, work with industry to encourage self-regulation, and educate consumers about the risks associated with using P2P file-sharing software. Going forward, the staff will continue to examine the impact of this and other emerging technologies on consumers and the marketplace.

With respect to the competition/economic issues, workshop participants explored the economic impact of P2P file sharing. These discussions revealed conflicting and largely speculative views on the extent of economic impact, particularly in the context of the impact on the music industry. Workshop participants discussed the difficult question of how to balance intellectual property protection needed to encourage the creation of new works with the freedom needed to advance technologies that can benefit consumers through economic growth and enhanced business efficiency. The Supreme Court's impending decision in Grokster likely will clarify the legal framework applicable to P2P file sharing and have a profound effect on the future structure of P2P file-sharing programs.



## ENDNOTES

- 1 This report was prepared by FTC staff and does not necessarily reflect the views of the Federal Trade Commission or of any individual Commissioner. The Commission, however, has voted to authorize the staff to publish this report (Commissioner Leibowitz not participating).
- 2 The workshop agenda, transcript, panelist presentations, and 51 public comments received by the Commission in connection with the workshop are available at: <http://www.ftc.gov/bcp/workshops/filesharing/index.htm>. A copy of the agenda also is attached as Appendix A to this report.
- 3 Majoras, Workshop Transcript, December 15, 2005 (hereinafter “Tr. I”) at 9-10. As part of this effort, the Commission also recently has held workshops and released staff reports on spyware and radio frequency identification (“RFID”). *Id.*; *see* “Spyware Workshop: Monitoring Software on Your Personal Computer: Spyware, Adware, and Other Software: Report of the Federal Trade Commission Staff” (Mar. 2005), available at: <http://www.ftc.gov/opa/2005/03/spywarerpt.htm> (hereinafter “Spyware Workshop Report”); “RFID: Radio Frequency Identification: Applications and Implications for Consumers: A Workshop Report from the Staff of the Federal Trade Commission” (Mar. 2005), available at: <http://www.ftc.gov/os/2005/03/050308rfidrpt.pdf>.
- 4 Majoras, Tr. I at 10; Parnes, Tr. I at 175.
- 5 Majoras, Tr. I at 15.
- 6 Senator Smith now serves as Chairman of the Trade, Tourism, and Economic Development Subcommittee of the Senate Commerce Committee.
- 7 Smith, Tr. I at 17, 20-21.
- 8 380 F.3d 1154 (9th Cir.) (upholding a grant of summary judgment on the ground that the defendant file-sharing software providers did not materially contribute to copyright infringement or have the means to supervise infringing P2P users), *petition for cert. granted*, 125 S. Ct. 686 (No. 04-480) (Dec. 10, 2004). The Supreme Court held oral argument in this case in March 2005.
- 9 Palisade Systems, Inc., “Peer-to-Peer Study Results,” at 2 (Mar. 2003); *see also* Center for Democracy and Technology (“CDT”), Comment 28.
- 10 *See, e.g., id.*; Ross, Tr. I at 31 (defining P2P file sharing as consisting of four essential elements: (1) a distributed software application running in users’ computers, which allows users to (2) pool their files into a distributed pool (*i.e.*, the files do not reside all in one location), (3) search the pool files with keywords, and (4) download the discovered files from peer to peer); John Hale, Nicholas Davis, James Arrowood, and Gavin Manes, “P2P Fear and Loathing: Operational Hazards of File Trading Networks” at 2 (Sept. 2002) (hereinafter “P2P Fear and Loathing”).
- 11 Colloquy (unidentified member of the public and panelist Ross), Tr. I at 56-57. *See also* Eisgrau, Tr. I at 189 (emphasizing the decentralized nature of peer-to-peer technology, stating that there are no P2P “networks” but only “communities” of users who have downloaded and use peer-to-peer software individually).
- 12 *E.g.*, Ross, Tr. I at 29; Recording Industry Association of America (“RIAA”), Comment 26; Distributed Computing Industry Association (“DCIA”), Comment 12; CDT, Comment 28.
- 13 *E.g.*, CDT, Comment 28 (P2P file sharing spreads storage and bandwidth costs across a broad user base).

- 14 See DCIA, Comment 12; see also Valentine, Comment 20 (stating that P2P can increase efficiency in any sector of the economy where electronic collaboration takes place, such as by replacing e-mail as a file transfer method, which currently constitutes a great strain on company systems); Blich, Comment 45 (stating that the BitTorrent application [described in Part II.B.3 infra] achieves significant efficiency and speed gains in the distribution of files or other communications by allowing users to upload, or share, portions of a file at the same time they are downloading those portions from others). But see RIAA, Comment 26 (While acknowledging that “[i]n some situations and for some applications, P2P architectures may help optimize network resources, including storage, processing and bandwidth,” RIAA claimed that “the comparative efficiency of P2P versus client-server systems depends upon a complex set of technological and market factors relating to the relative costs and capabilities of network resources (e.g., bandwidth; central vs. distributed storage)” and that “the current generation of commercial P2P networks” is not “economically efficient” because its “business model [is] based on theft.”).
- 15 See Valentine, Comment 20 (describing the different P2P models as: (1) the centralized model, utilizing a central server as a matchmaker for peers on the network, (2) the decentralized model, which does not have a central server or rigid hierarchy, and (3) the hybrid P2P network, combining the decentralized model with a hierarchy of users to increase the efficiency of the network).
- 16 Ross, Tr. I at 27-28; see also “P2P Fear and Loathing,” supra note 10, at 1-2 (describing “centralized” P2P model).
- 17 Ross, Tr. I at 27-28; RIAA, Comment 26. Panelist Ross noted that because Napster relied on a centralized server as a directory, some argue that it was not a “pure” P2P application. Ross, Tr. I at 29.
- 18 Ross, Tr. I at 28.
- 19 Id.; RIAA, Comment 26. The information would include the Internet Protocol (“IP”) address of that peer. Ross, Tr. I at 28. An IP address is an identifier that computer networks use to route messages to the correct destination.
- 20 Id.
- 21 239 F.3d 1004 (9th Cir. 2001). In that case, the district court issued a preliminary injunction on the grounds that the plaintiffs were likely to be able to establish Napster’s liability for contributory (i.e., secondary) copyright infringement. Id. at 1020. The district court’s decision was based largely on the fact that Napster utilized a central server on which it maintained the index of files available for sharing. Id. On appeal, the Ninth Circuit affirmed. Id. In late 2003, Napster was re-launched as a fee-based music download service. See Press Release, “Napster’s Back” (Oct. 29, 2003), available at: [http://www.napster.com/press\\_releases/pr\\_031029.html](http://www.napster.com/press_releases/pr_031029.html) (visited Mar. 22, 2005).
- 22 See RIAA, Comment 26. See also generally Shaw and Mercer, Caution! Music & Video Downloading: Your Guide to Legal, Safe, and Trouble-Free Downloads, at 44 (2005) (hereinafter “Caution! Music & Video Downloading”).
- 23 Ross, Tr. I at 29-30. The FastTrack protocol supports a number of different P2P file-sharing programs, including KaZaA and Grokster. Id. Other protocols include Gnutella and eDonkey.
- 24 Id. at 30.
- 25 Id. A user’s computer may be selected to serve as a super node automatically, based on its storage capacity and/or connection speed, for example. Id.; DCIA, Comment 12.

- 26 Ross, Tr. I at 30. The super node also can forward the query to other super nodes, and send any responses it receives back to the user. Id. at 31. See also generally “P2P Fear and Loathing,” supra note 10, at 2 (describing “decentralized” P2P model).
- 27 Ross, Tr. I at 31.
- 28 Id. at 32.
- 29 Id. at 33.
- 30 Id. at 33. Each piece typically is about a quarter of a megabyte in size. Id.
- 31 Id. at 33-34. This process of downloading pieces of a file simultaneously from multiple participating computers is called “swarming.” DCIA, Comment 12.
- 32 Id. at 34.
- 33 Ishikawa, Tr. I at 46; Ross, Tr. I at 34.
- 34 Ross, Tr. I at 34-35; Dean, Comment 43.
- 35 Dean, Comment 43.
- 36 Ross, Tr. I at 35; Dean, Comment 43.
- 37 Rob Pegoraro, “BitTorrent May Prove Too Good To Quash,” Washington Post, Mar. 13, 2005, at F7.
- 38 DCIA, Comment 12; Dinesh C. Sharma, “Lindows to sell cut-price Linux via P2P,” CNET News.com, Mar. 5, 2004 (describing use of P2P file-sharing program to distribute Linux OS operating software to consumers for half the normal price), available at <http://news.zdnet.co.uk/software/linuxunix/0,39020390,39148084,00.htm> (visited May 4, 2004).
- 39 DCIA, Comment 12.
- 40 Id. As a result, this commenter stated, P2P has become the largest distributor of authorized content on the Internet, with an average of more than 50 million transactions per month. Id. See also Scott G, Comment 4 (music recording artist describing his use of P2P to distribute his music for free).
- 41 See DCIA, Comment 12; Ross, Tr. I at 39; General Accounting Office, “Posthearing Questions from the September 9, 2003, Hearing on ‘Pornography, Technology, and Process: Problems and Solutions on Peer-to-Peer Networks,’” at Question 1 (Nov. 14, 2003), available at [www.gao.gov/htext/d04207r.html](http://www.gao.gov/htext/d04207r.html) (visited Mar. 21, 2005).
- 42 DCIA, Comment 12; Ross, Tr. I at 39.
- 43 Ishikawa, Tr. I at 42-44, 48; Kilgore, Tr. I at 182; CDT, Comment 28; RIAA, Comment 26.
- 44 According to one panelist, the majority of this type of file sharing involves the unauthorized exchange of copyrighted materials, in violation of copyright law. Ishikawa, Tr. I at 42.
- 45 See generally Augustson, Tr. I at 271-76.
- 46 Id. at 272.
- 47 Halm, Comment 25; see also Augustson, Tr. I at 272.
- 48 Augustson, Tr. I at 273.
- 49 DCIA, Comment 12.

- 50 See, e.g., Newby, Comment 2 (describing “Project Gutenberg” and encouraging use of P2P to distribute free ebooks); Barry Kelly, “Berklee Launches ‘Berklee Shares’” (Nov. 10, 2003) (announcing Berklee College of Music program to provide free music lessons online and encourage sharing among users), available at <http://www.berklee.edu/news/2003/11/berkleeshares.html> (visited Apr. 1, 2005); see also Anonymous, Comment 27 (noting that P2P provides a cost-effective distribution mechanism for programmers who do not wish to charge for their software).
- 51 See [www.worldwind.arc.nasa.gov/download.html](http://www.worldwind.arc.nasa.gov/download.html).
- 52 See Press Release, “Sun Innovation, Project JXTA, Inspires Development of P2P Services and Applications” (Apr. 23, 2002), available at <http://www.sun.com/smi/Press/sunflash/2002-04/sunflash.20020423.1.html>; Press Release, “Global Governments and Industry Partners Rely on Sun Microsystems to Achieve Security and Scalability” (May 3, 2005), available at <http://www.sun.com/smi/Press/sunflash/2005-05/sunflash.20050503.5.html>.
- 53 DCIA, Comment 12.
- 54 Id.; Pouwelse, Tr. I at 287, 294.
- 55 E.g., CDT, Comment 28.
- 56 Ross, Tr. I at 38-39. An example might be Einstein@Home, a distributed computing project under development which would allow private users to donate their computers’ “idle” time to be used in analyzing data relating to neutron stars. See “P2P and Pulsars” (Feb. 2, 2005), available at <http://p2pnet.net/story/3780> (visited Mar. 29, 2005).
- 57 Noam, Tr. I at 254.
- 58 See, e.g., Michael L. Katz and Carl Shapiro, “Network Externalities, Competition, and Compatibility,” 75 Am. Econ. Rev. 424 (1986); Dennis W. Carlton and Jeffery M. Perloff, Modern Industrial Organization at 373-76 (3d ed. 2000). One panelist argued that because P2P technology is subject to network effects, either the government or business may have to subsidize participation in the network to ensure that it achieves “critical mass.” Noam Tr. I. at 254-55. This panelist suggested that “piracy,” i.e., the violation of copyright laws, may be an alternative means of reaching critical mass without such a subsidy. Id. at 255-56.
- 59 These risks are discussed in Part III, infra.
- 60 Ishikawa, Tr. I at 43-44. Ishikawa’s company, Bay TSP, is an intellectual property and Internet monitoring service. Id. at 42.
- 61 RIAA Comment 26 (citing MediaSentry); see also Pierre-Louis, Tr. I at 88 (citing similar statistics for November 2004). More recent reports indicate that in April 2005 approximately 8.6 million users were logged onto a P2P file-sharing program at one time. See Lisa DiCarlo, “File Size on P2P Nets Explodes,” Forbes.com (June 8, 2005), available at [http://www.forbes.com/digitalentertainment/2005/06/08/p2p-limewire-napster-cx\\_id\\_0608chart.html](http://www.forbes.com/digitalentertainment/2005/06/08/p2p-limewire-napster-cx_id_0608chart.html) (visited June 9, 2005).
- 62 Ross, Tr. I at 27. Indeed, according to this panelist, BitTorrent had emerged as the most popular application by June 2004.
- 63 Ross, Tr. I at 26-27, and Presentation, Slide 4. The BitTorrent program appeared to comprise the largest percentage of this traffic. Id. at 27 and Presentation, Slide 4 (stating that use of BitTorrent alone comprised 53% of all P2P traffic) (citing CacheLogic 2004 data); CDT, Comment 28 (citing a study estimating that traffic from BitTorrent alone accounts for more than one-third of all Internet traffic).

- 64 Toll, Tr. I at 51-52 (P2P activity measured by simultaneous usage at any given moment in time); Ishikawa, Tr. I at 44.
- 65 Appleget, Comment 24; Valentine, Comment 20.
- 66 Toll, Tr. I at 51 and Presentation, Slides 4-5 (stating his finding that four of the top six movies shared via P2P file-sharing programs skewed towards children and teens, and that a significant number of users had one or more music files by two artists who skew toward pre-teen and young teen girls).
- 67 See Valentine, Comment 20.
- 68 Good & Krekelberg, Tr. I at 68-75; RIAA, Comment 26.
- 69 Good & Krekelberg, Comment 51; RIAA, Comment 26; Dean, Comment 43 (“If a peer-to-peer client is improperly configured by the authors of the program or the end user himself, information will . . . inevitably be available.”). According to one commenter, several aspects of P2P file sharing heighten the risk of inadvertent sharing, such as: file sharing occurs among millions of consumers who typically have little expertise; the powerful search capabilities of P2P file-sharing software make files widely accessible; and the sharing functions of the software can be less transparent to users than features in other programs. CDT, Comment 28.
- 70 Good, Tr. I at 74-75.
- 71 See Krekelberg, Tr. I at 69; see also Nathaniel S. Good and Aaron Krekelberg, “Usability and Privacy: A Study of KaZaA P2P File-Sharing” (June 2002) (hereinafter “Usability and Privacy”); Good & Krekelberg, Comment 51.
- 72 “Usability and Privacy,” supra note 71; see also RIAA, Comment 26 (citing same).
- 73 Good, Tr. I at 71-72; Good & Krekelberg, Comment 51. The researchers found that eDonkey automatically creates a new, empty folder for shared documents, which the user affirmatively must populate with files. Good, Tr. I at 72-73.
- 74 Id. at 72. In addition, the process by which the “seed node” prepares a file initially to make it available for dissemination through BitTorrent is quite complicated and thus not likely to occur inadvertently.
- 75 Id. at 72. The researchers cited P2P Warez as doing a particularly poor job, in that it searches a user’s hard drive for files to share by default, possibly including personal and private information, which users may not be aware of. Id.; Good & Krekelberg, Comment 51.
- 76 E.g., RIAA, Comment 26; CDT, Comment 28; The CapAnalysis Group LLC, Comment 9.
- 77 Hale, Tr. I at 63, 64; DCIA, Comment 12.
- 78 DCIA, Comment 12 (annual fees approximately \$25-\$30).
- 79 Hale, Tr. I at 63; CDT, Comment 28 (stating that most commercial P2P file-sharing services obtain their primary source of revenue from bundling arrangements with other software makers).
- 80 The terms “spyware” and “adware” are difficult to define. For a discussion of these definitional issues, see the Commission’s Spyware Workshop Report, supra note 3, at 8, 10-11. See also Hale, Tr. I at 62-63 and Presentation, Slide 3; Valentine, Comment 20; CDT Comment 28.
- 81 P2P file-sharing programs may or may not clearly and conspicuously disclose to consumers that their programs are ad-supported. See Part III.A.3 infra.

- 82 Spyware Workshop Report, supra note 3, at 17; Appelget, Comment 24; Dean, Comment 43; RIAA, Comment 26; Blich, Comment 45; The CapAnalysis Group, Comment 9.
- 83 Spyware Workshop Report, supra note 3, at 20 & n.87; RIAA, Comment 26; The CapAnalysis Group, Comment 9.
- 84 Hale, Tr. at 63; The CapAnalysis Group, Comment 9.
- 85 Spyware Workshop Report, supra note 3, at 5; see also Thompson, Spyware Workshop Transcript, at 83-84, available at <http://www.ftc.gov/bcp/workshops/spyware/index.htm>.
- 86 Gordon, Spyware Workshop Transcript, supra note 85, at 84-85.
- 87 Caution! Music & Video Downloading, supra note 22, at 105-106, 255.
- 88 Hale, Tr. I at 66-67.
- 89 See id. at 66 and Presentation, Slide 7 (citing known P2P viruses, and KaZaA and eDonkey as popular targets); see also RIAA, Comment 26; “P2P Fear and Loathing,” supra note 10, at 3. Panelist Hale further observed that viruses generally seem to be on the increase. Hale, Tr. I at 66.
- 90 Id.
- 91 Id.
- 92 Caution! Music & Video Downloading, supra note 22, at 105.
- 93 The owner of a copyrighted work (e.g., a musical composition) generally has the exclusive right to control the reproduction and distribution of that work for a certain period of time. See, e.g., United States Copyright Office, “Copyright Basics,” available at <http://www.copyright.gov/circs/circ1.html#wci> (visited May 24, 2005). One who reproduces or distributes a copyrighted work without the permission of the copyright owner may therefore be engaged in copyright infringement, a federal offense.
- 94 See, e.g., RIAA, Comment 26.
- 95 RIAA, Comment 26 (citing Palisade Systems, Inc. study (Mar. 2003)). See also Pierre-Louis, Tr. I at 88. The study examined file trading using the Gnutella protocol, including applications such as Morpheus, LimeWire, and BearShare. The RIAA also cited studies indicating that 49% of 12-22 year olds illegally downloaded music in July 2003, and that 54.6% of college students downloaded without paying in 2002. RIAA, Comment 26 (citing “From Discs to Downloads,” Forrester Research, Aug. 2003; eMarketer Spotlight Report, Jan. 2004 (citing Student Watch from the National Association of College Stores, Aug. 2003)).
- 96 17 U.S.C. §§ 502-505, 506, 509; Pierre-Louis, Tr. I at 89. Individual civil liability for copyright infringement may be significant, and in some cases may reach \$150,000 for each copyrighted work infringed – that is, for each file traded without authorization. 17 U.S.C. § 504; Pierre-Louis, Tr. I at 89.
- 97 See, e.g., Steve Knopper, “RIAA Will Keep On Suing,” Rolling Stone (June 9, 2005), available at [http://www.rollingstone.com/news/story/\\_/id/7380412](http://www.rollingstone.com/news/story/_/id/7380412) (visited June 9, 2005); See also Pierre-Louis, Tr. I at 88; RIAA Comment 26. According to the RIAA, many of the individuals sued have settled the lawsuits for thousands of dollars. Pierre-Louis, Tr. I at 89.
- 98 See, e.g., Press Release, Motion Picture Association of America, “Oscar-Nominated Films Among the Movies Pirated as MPAA Member Companies File Third Round of Lawsuits Against Illegal Online File Traders” (Feb. 24, 2005), available at [www.mpa.org](http://www.mpa.org). See also Pierre-Louis, Tr. I at 88.

- 99 17 U.S.C. § 506(a).
- 100 Parsky, Tr. I at 172.
- 101 *Id.* at 172-73. According to Ms. Parsky, Deputy Assistant Attorney General for the Criminal Division at the Department of Justice (“DOJ”), P2P file-sharing programs have generated an “explosion” in copyright infringement. The DOJ’s criminal division has focused its attention on the large organized distribution networks (known as “warez groups”) that have created a mass proliferation of infringement over the Internet, and on the large-scale harm resulting from this increase. *Id.* at 170, 172. These efforts are part of the DOJ’s larger, ongoing initiative to address intellectual property crime, which also has included “Operation FastLink,” described as the largest international law enforcement effort ever undertaken against online piracy. *Id.* at 171-72; *see also* RIAA, Comment 26. In a 24-hour period, Operation Fastlink participants conducted 120 searches in 27 states and 10 foreign countries, resulting in the seizure of more than 200 computers. Parsky, Tr. I at 172; Press Release, Department of Justice, “Justice Department Announces International Internet Piracy Sweep” (Apr. 22, 2004), available at [www.usdoj.gov/opa/pr/2004/April/04\\_crm\\_263.htm](http://www.usdoj.gov/opa/pr/2004/April/04_crm_263.htm).
- 102 *See* Press Release, Department of Justice, “Federal Law Enforcement Announces Operation D-Elite, Crackdown on P2P Piracy Network” (May 26, 2005), available at <http://www.fbi.gov/dojpressrel/pressrel05/bittorrent052505.htm>.
- 103 Of course, some consumers, including minors, may purposely use P2P file-sharing programs to obtain and share files containing pornographic images. Parents of such minors may have concerns about the resulting “advertent” exposure as well.
- 104 *E.g.*, RIAA, Comment 26 (citing GAO Report, discussed *infra*); DCIA, Comment 12.
- 105 “File-Sharing Programs: Peer-to-Peer Networks Provide Ready Access to Child Pornography,” General Accounting Office Report to the Chairman and Ranking Minority Member, Committee on Government Reform, U.S. House of Representatives (Feb. 2003) (hereinafter “GAO Report”). The General Accounting Office is now called the Government Accountability Office.
- 106 *Id.*; Koontz, Tr. I at 76. House Government Reform Committee Chairman Davis and Ranking Member Waxman requested that the GAO perform this study. Koontz, Tr. I at 75-76.
- 107 The GAO used Customs Service agents to conduct this search because downloading some of the search result files may be illegal if done by persons other than criminal law enforcement authorities. GAO Report, *supra* note 105, at 1 & n.1.
- 108 GAO Report, *supra* note 105, at 14; Koontz, Tr. I at 76-77.
- 109 Koontz, Tr. I at 76-77 and Presentation, Slide 3; GAO Report, *supra* note 105, at 14-15. An additional 7% contained child erotica. *Id.*
- 110 Koontz, Tr. I at 76; GAO Report, *supra* note 105, at 14. The GAO also concluded that child pornography was readily available and accessible at the time of the survey. *Id.*
- 111 Koontz, Tr. I at 77-78.
- 112 *Id.* at 77-78.
- 113 According to one workshop participant, sexually abusive images of children are distributed in large volumes over the Internet, including through P2P file sharing. Collins, Tr. I at 80-81, 83-84. *See also* GAO Report, *supra* note 105, at 2-3, 13 (citing reports that P2P file sharing is increasingly being used to distribute child pornography).

- 114 The CapAnalysis Group, LLC, Comment 9.
- 115 Id.; see also RIAA, Comment 26.
- 116 18 U.S.C. § 2252.
- 117 See, e.g., Cal. Penal Code § 313.1 (West 2005); Mass. Gen. Laws Ann. ch. 272, § 28 (West 2005); Tex. Penal Code Ann. § 43.24 (Vernon 2004).
- 118 Parsky, Tr. I at 173-74. A number of federal agencies, including the DOJ and Department of Homeland Security, as well as non-profit organizations such as the National Center for Missing and Exploited Children, have participated in this initiative. Id.
- 119 Id. at 174; Press Release, Department of Justice, “Departments of Justice, Homeland Security Announce Child Pornography File-Sharing Crackdown” (May 14, 2004), available at: <http://www.fbi.gov/dojpressrel/pressrel04/p2p051404.htm>.
- 120 Kilgore, Tr. I at 183. <http://www.fbi.gov/dojpressrel/pressrel04/p2p051404.htm>
- 121 See, e.g., Appleget, Comment 24 (suggesting it does not seem appropriate, therefore, to focus only on P2P in regards to unauthorized or misleading software installations that piggyback on the primary application being installed); Hale, Tr. I at 64 (“when we talk about vulnerabilities [e.g., security], the fact of the matter is that all software is vulnerable in some way”); Collins, Tr. I at 79-80 (risk of exposure to pornography exists in all facets of the Internet); Toll, Tr. I at 52-53 (to a large extent, the kind of threats to children and minors in particular on P2P are also problems on the Internet, e-mail, and chat rooms).
- 122 The CapAnalysis Group, Comment 9 (citing Stefan Saroiu, Steven D. Gribble, Henry M. Levy, “Measurement and Analysis of Spyware in University Environment” (Mar. 2004) (finding that spyware infection rate among university computers using KaZaA file-sharing software was 5 to 22 times greater than infection rates among computers using the Internet alone)).
- 123 Valentine, Comment 20. In addition, as noted in Part III.A.1.b above, consumers may purchase adware- and spyware-free versions of P2P file-sharing software.
- 124 DCIA, Comment 12.
- 125 Valentine, Comment 20.
- 126 Dean, Comment 43; see also Wyncoop (member of audience), Tr. I 106-07 (real problem with respect to security vulnerabilities, viruses, and worms is not the P2P applications themselves but flaws in the operating systems that most consumers use).
- 127 DCIA, Comment 12.
- 128 Pierre-Louis, Tr. I at 94.
- 129 Id.; see also Pew Internet & American Life Project, “Music and Video Downloading Moves beyond P2P,” at 9 (Mar. 2005) (describing recent survey finding that 28% of Internet users who previously downloaded music or video files, but who stopped downloading, cited the RIAA lawsuits, or fear of getting in trouble, as the main reason they stopped), available at: [http://www.pewinternet.org/ppf/r/153/report\\_display.asp](http://www.pewinternet.org/ppf/r/153/report_display.asp).
- 130 E.g., Good, Tr. I at 74; Freedman, Tr. I at 120.
- 131 E.g., Blitch, Comment 45.



- 132 Id.; RIAA, Comment 26 (stating that EULAs are highly technical and lengthy, and usually overlooked by users); The CapAnalysis Group, Comment 9. P2P file-sharing software distributors typically require a consumer to “click” to indicate their agreement to an EULA before the consumer can download the software.
- 133 RIAA, Comment 26.
- 134 Collins, Tr. I at 86-87. This panelist stated that her opinion is based on conversations she has had with law enforcement officials. Id.
- 135 DCIA, Comment 12.
- 136 Id.
- 137 E.g., Appelget, Comment 24; DCIA, Comment 12; The CapAnalysis Group, Comment 9; Parnes, Tr. I at 178.
- 138 See, e.g., Polonetsky, Tr. I at 142-43 (discussing pornography filters).
- 139 Id. at 152-54 and Presentation, Slides 6 and 7.
- 140 Id. (noting that AOL also provides tools to prevent children from using any file-sharing program already installed).
- 141 Kessinger, Tr. I at 156-57 and Presentation, Slide 8.
- 142 Block, Tr. I at 146-50 and Presentation, Slides 3-5. Because the program does not rely on filenames to identify P2P file-sharing programs, renaming a program file will not allow a child to circumvent the blocking. Id.
- 143 See discussion in Part III.A.1.a, supra.
- 144 Freedman, Tr. I at 117-18.
- 145 Id. at 118.
- 146 Id. at 122 and Presentation, Slide 5.
- 147 Id. at 120-21 and Presentation, Slides 3-4.
- 148 See, e.g., [www.kazaa.com/us/help/faq\\_privacy.htm](http://www.kazaa.com/us/help/faq_privacy.htm) (the “no browsing” feature is on by default).
- 149 Ikezoye, Tr. I at 119. As a result, highly sensitive information, such as tax filings, may become readily accessible to anyone using such file-sharing programs. There have been recent news reports that personal tax returns were available via a file-sharing program even before they had been filed. See <http://www.cbsnews.com/stories/2005/05/03/eveningnews/main692765.shtml>.
- 150 Freedman, Tr. I at 119.
- 151 Polonetsky, Tr. I at 123-28.
- 152 Id. at 126 (noting that premium, or paid, versions of these scanners also may scan files for spyware as the spyware is being downloaded).
- 153 Id. at 125-27 and Presentation, Slides 3-4. These “quick scans,” such as the one offered by AOL, may scan only for certain pre-selected spyware programs, however, as opposed to examining an entire hard drive for the presence of a large number of spyware programs, which could take significantly longer.

- 154 Polonetsky, Tr. I at 124.
- 155 See, e.g., id. at 131; Ikezoye, Tr. at 132.
- 156 Polonetsky, Tr. at 131.
- 157 Ports are channels through which data flows back and forth between a computer and other computers connected to the Internet.
- 158 Ikezoye, Tr. at 132. It was noted that firewalls also may not prevent the downloading of shared files that contain viruses. Firewalls act as gatekeepers. They close unneeded ports through which Internet communications can enter the computer, and block incoming Internet communications – and sometimes outgoing communications – unless the consumer has authorized those communications. Freedman, Tr. at 131-32. However, firewalls usually do not check the contents of the communications coming in or going out, so as to determine whether a file contains a virus, for example. Block, Tr. at 132-33. In addition, some P2P file-sharing programs have begun using ports normally used for other types of communications that are routinely allowed by a firewall. For example, some P2P file-sharing programs are now using Port 80 for file-sharing communications. Because Port 80 is the standard port used to request and receive webpages, most firewalls would let the file-sharing communications through as well. Ikezoye, Tr. at 132.
- 159 Freedman, Tr. I at 134 and Presentation, Slide 6. Another panelist cautioned, however, that many users think they have anti-virus protection because an anti-virus program came with their computers. If these users have not updated the program, they may not be protected from current viruses. Polonetsky, Tr. I at 130-31.
- 160 See [www.kazaa.com/us/p2padvisory5.htm](http://www.kazaa.com/us/p2padvisory5.htm), describing KaZaA's built-in BullGuard anti-virus feature.
- 161 Polonetsky, Presentation, Slide 5.
- 162 Freedman, Tr. I at 134-35.
- 163 Id. Such blocklists may also be designed to block known sources of spyware or corrupted files.
- 164 Ikezoye, Tr. I at 136-39 and Presentation, Slides 4-6.
- 165 Id. at 138-39.
- 166 Id. at 138.
- 167 Id. at 137-38.
- 168 E.g., Pierre-Louis, Tr. I at 106; Miller, Tr. I at 203; Garfield, Workshop Transcript, December 16, 2005 (hereinafter "Tr. II") at 56; Sherman, Tr. II at 119.
- 169 Audience member (Philip Corwin), Tr. I at 112; Freedman, Tr. I at 323; unidentified audience member, Tr. II at 87. See also Pouwelse, Tr. I at 323 (filtering does not work from a technological standpoint). Another participant noted that encryption of P2P communications will prevent evaluation of the content of shared files and destroy the efficacy of copyright filters in general. Augustson, Tr. I at 270.
- 170 Yagan, Tr. II at 165-66, 193.
- 171 Ikezoye, Tr. I at 140.
- 172 See, e.g., [www.limewire.com/english/content/ftc.shtml](http://www.limewire.com/english/content/ftc.shtml) (can also specify IP numbers to filter); [www.kazaa.com/us/help/glossary/new\\_parentsguide.htm](http://www.kazaa.com/us/help/glossary/new_parentsguide.htm) (can also filter for "offensive" content).

- 173 Freedman, Tr. I at 139-40.
- 174 Ikezoye, Tr. I at 137-38; Polonetsky, Tr. I at 142.
- 175 See, e.g., [www.kazaa.com/us/help/new\\_parentsguide.htm](http://www.kazaa.com/us/help/new_parentsguide.htm). These filters screen out files based on their file extension, such as .avi for videos, or .jpg for photos. See also Kessinger, Tr. I at 156-57 and Presentation, Slide 7 (third-party software that filters based on file extensions).
- 176 Ikezoye, Tr. I at 140-41.
- 177 Ikezoye, Presentation, Slide 8 (use of speech-to-text technology to analyze speech in videos); Kessinger, Tr. I at 143-44 (image-scanning technology). Although this image-scanning technology is already being used to scan files delivered via e-mail, it is not currently being used for web-based images or files transmitted via file-sharing programs due to the added lag time in performing the scan. Id. at 144-45.
- 178 These disclosures typically appeared in EULAs, “frequently asked questions,” or privacy policies on the software websites. See discussion in Part III.A.3, supra; Miller, Tr. I at 201; see also Eisgrau, Tr. I at 192-93 and Presentation, Slides 1, 6 (describing disclosures appearing on website of P2P United).
- 179 RIAA, Comment 26; see also The CapAnalysis Group, Comment 9 (stating that vast majority of users are either unaware that they can change default “share” settings to avoid unwitting distribution of copyrighted files or unaware of the legal risks they face if they do not do so).
- 180 E.g., Hale, Tr. I at 64 (P2P companies that bundle spyware and adware with their applications increasingly are providing some kind of notice, but the question whether the average person can decipher the notice is “probably open for debate”).
- 181 E.g., Pierre-Louis, Tr. I at 90-91; RIAA Comment 26; The CapAnalysis Group, Comment 9.
- 182 RIAA Comment 26; The CapAnalysis Group, Comment 9.
- 183 The CapAnalysis Group, Comment 9. One panelist cited a claim by one P2P software company that it provided “the only legally sanctioned peer-to-peer file-sharing application based in the United States.” Pierre-Louis, Tr. I at 91. According to this panelist, the claim gives users the impression that any use of the P2P application is legally sanctioned, whereas courts have uniformly held that unauthorized trading of copyrighted files is illegal. Id. at 91-92.
- 184 See Letter from Orrin G. Hatch, Patrick Leahy, Ted Stevens, Barbara Boxer, and Gordon Smith, U.S. Senators, to Timothy J. Muris, Mozelle W. Thompson, Orson Swindle, Thomas B. Leary, and Pamela Jones Harbour, Commissioners, Federal Trade Commission (May 4, 2004) (on file with the Commission).
- 185 See, e.g., Letter from Federal Trade Commission to Orrin G. Hatch, U.S. Senator (June 21, 2004) (on file with the Commission).
- 186 Id.
- 187 See Lafferty, Tr. I at 99. DCIA is a non-profit trade group formed in 2003 to commercially develop P2P technology. Id. This panelist stated that the disclosures are the first work product of the CDWG, which was formed in June 2004 to identify risks to consumers associated with P2P file-sharing software, to develop an effective standardized disclosure regime to clearly and conspicuously communicate those risks, and to encourage industry responses to mitigate or eliminate them. Id. at 98; DCIA, Comment 12.

- 188 Lafferty, Tr. I at 99. The warning would read: “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.” See Appendix B (copy of CDWG’s disclosures).
- 189 Lafferty, Tr. I at 100-01. The text in the message box would read: “Click here for important information about P2P software risks.” See Appendix B.
- 190 Lafferty, Tr. I at 101; Appendix B. The risk-disclosure page also would contain a link to the FTC’s consumer alert regarding the risks of P2P file sharing. Lafferty, Tr. I at 101.
- 191 Id. at 104.
- 192 Id.
- 193 Id. This panelist also suggested that the P2P applications themselves could be used to communicate risk information to consumers, but made no specific proposal to do so. Id. at 104-05.
- 194 Eisgrau, Tr. I at 193 et seq. See Appendix C (copy of P2P United’s disclosures).
- 195 Id. at 194 and Presentation, Slides 8-9; Appendix C. The banner/text box would read: “Click here for Important Information about Using P2P Software Safely.” See Eisgrau Presentation, Slide 8. According to this proposal, a separate warning would appear each time a user installed a member’s software, stating: “The use of this software for illegal activities, including infringement of intellectual property laws, is strictly forbidden, and may subject the user to civil and/or criminal penalties.” Id. at Slide 9.
- 196 Eisgrau, Tr. I at 194-95 and Presentation, Slide 10; Appendix C.
- 197 See, e.g., Letter from Deborah Platt Majoras, Chairman, Federal Trade Commission, to Orrin G. Hatch, U.S. Senator (Dec. 6, 2004) (Commissioner Leibowitz not participating) (on file with the Commission).
- 198 Miller, Tr. I at 204.
- 199 Smith, Tr. I at 21.
- 200 Parnes, Tr. I at 178.
- 201 Letter from Lydia B. Parnes, then-Acting Director, Bureau of Consumer Protection, Federal Trade Commission, to P2P file-sharing software distributors (Mar. 1, 2005) (on file with the Commission). The FTC staff was unable to locate the company operating one of the programs, and thus did not send a letter to it.
- 202 See, e.g., Letter from Deborah Platt Majoras, Chairman, Federal Trade Commission, to Orrin G. Hatch, U.S. Senator (May 5, 2005) (on file with the Commission). The FTC staff also sent letters to the P2P companies notifying them of the results of the FTC staff’s most recent review of their websites. See, e.g., Letter from Lydia B. Parnes (Apr. 29, 2005) (on file with the Commission).
- 203 DCIA has indicated that it will continue to improve the disclosures, such as by clarifying that purchasing the right to use a P2P software program does not confer the right to share copyrighted material. Lafferty, Tr. I at 100.
- 204 Parnes, Tr. I at 176-77.

- 205 In addition, the FTC recently issued a report presenting the information obtained in connection with the workshop it held in April 2004 exploring issues associated with spyware. See Parnes, Tr. I at 176; Spyware Workshop Report, supra note 3.
- 206 FTC v. Seismic Entertainment Productions, No. 04-CV-377-JD (D.N.H.) (filed Oct. 6, 2004).
- 207 FTC v. MaxTheater, Inc., No. 05-CV-0069-LRS (E.D. Wash.) (filed Mar. 7, 2005).
- 208 FTC v. Trustsoft, Inc., Civ No. 05-1905 (S.D. Tex.) (filed May 31, 2005).
- 209 See Spyware Workshop Report, supra note 3, at 41-42.
- 210 See, e.g., Press Release, Office of New York State Attorney General Eliot Spitzer, “State Sues Major ‘Spyware’ Distributor: Intermix Media Accused of Vast Pattern of Surreptitious Installations” (Apr. 28, 2005), available at [http://www.oag.state.ny.us/press/2005/apr/apr28a\\_05.html](http://www.oag.state.ny.us/press/2005/apr/apr28a_05.html).
- 211 Parnes, Tr. I at 176; 15 U.S.C. § 45.
- 212 Parnes, Tr. I at 177.
- 213 Parnes, Tr. I at 177; Kraft, Inc., 114 F.T.C. 40, 120 (1991), aff’d and enforced, 970 F.2d 311 (7th Cir. 1992); FTC Policy Statement on Deception (appended to Cliffdale Assocs., 103 F.T.C. 110 (1984)).
- 214 Parnes, Tr. I at 177.
- 215 FTC Policy Statement on Deception (appended to Cliffdale Assocs., 103 F.T.C. 110, 176 (1984)).
- 216 Id. at 175 n.4; Parnes, Tr. I at 177.
- 217 Miller, Tr. I at 199-200; The CapAnalysis Group LLC, Comment 9.
- 218 E.g., Miller, Tr. I at 202-04; DeLong, Comment 49; MPAA Comment 30; The CapAnalysis Group, Comment 9 (citing enforcement actions in Guess?, Inc. and GUESS.com, Inc., FTC Dkt. No. C-4091 (2003), Microsoft Corp., FTC Dkt. No. C-4069 (2002), Eli Lilly and Co., FTC Dkt. No. C-4047 (2002)). One panelist also recommended that the Commission promulgate a trade regulation rule to mandate risk disclosures by P2P software program distributors. Miller, Tr. I at 204. To promulgate such a rule, the Commission would have to demonstrate that the practice of failing to make such disclosures is unfair or deceptive, and also prevalent in the industry. See 16 C.F.R. § 1.14(a)(1). As discussed in the text, the Commission has stated that it does not believe that distributors of P2P file-sharing software programs have a legal duty to disclose this risk information under Section 5 of the FTC Act.
- 219 Letter from Federal Trade Commission to Orrin G. Hatch, U.S. Senator (June 21, 2004) (on file with the Commission); See also Parnes, Tr. I at 178.
- 220 Letter from Federal Trade Commission to Orrin G. Hatch, U.S. Senator (June 21, 2004) (on file with the Commission); Parnes, Tr. I at 178.
- 221 Miller, Tr. I at 199-200; The CapAnalysis Group LLC, Comment 9; RIAA, Comment 26. See also Pierre-Louis, Tr. I at 96 (asserting that some consumers may falsely believe that if they pay for a P2P file-sharing service – e.g., they pay a one-time fee to download an unlimited amount of music or they pay to purchase an adware-free version of a P2P program – they can trade copyrighted files legally). One P2P industry group urged the DOJ and the FTC to take action against “rogue” P2P software distributors that promote their products with “brazenly false and deceptive claims that virtually all copyrighted songs and movies are lawfully available from them for free.” P2P United, Comment 63 (emphasis in original).

- 222 Parnes, Tr. I at 179. The alert is available on the FTC’s website at <http://www.ftc.gov/bcp/online/pubs/alerts/sharealrt.htm>. This alert was downloaded over 100,000 times in fiscal year 2004, and more than 142,000 times in just the first six months of fiscal year 2005.
- 223 Parnes, Tr. I at 179.
- 224 Id.
- 225 US-CERT Security Tips, “Risks of File-Sharing Technology” (Mar. 30, 2005), available at <http://www.us-cert.gov/cas/tips/ST05-007.html>. US-CERT is a partnership between the Department of Homeland Security and the public and private sectors, established in 2003 to protect the nation’s Internet infrastructure. See <http://www.us-cert.gov/aboutus.html>.
- 226 US-CERT Security Tips, “Risks of File-Sharing Technology” (Mar. 30, 2005), available at <http://www.us-cert.gov/cas/tips/ST05-007.html>.
- 227 Id.
- 228 Kilgore, Tr. I at 183.
- 229 Id. at 183-84.
- 230 E.g., CDT, Comment 28; Miller, Tr. I at 202-03; Aftab, Tr. I at 208-09, 212-13 (role of FTC and state attorneys general in improving disclosures and dispelling confusion about “legality” of P2P software and whether users who purchase “premium” P2P services have bought license to download copyrighted files); Eisgrau, Tr. I at 198 (industries, state attorneys general, FTC, ISPs, and others all share a responsibility to educate consumers about the need to use P2P software safely and legally).
- 231 Aftab, Tr. I at 207, 216-17, 219-20 (describing a program she established called “Peers to Peers” to teach kids about piracy and respecting intellectual property rights).
- 232 Workshop participants also encouraged the FTC to continue its efforts to obtain voluntary cooperation from industry. E.g., Miller, Tr. I at 203.
- 233 E.g., Valentine, Comment 20; Smith, Tr. I at 20.
- 234 Family Entertainment and Copyright Act of 2005, Pub. L. No. 109-9 (signed Apr. 29, 2005).
- 235 17 U.S.C. § 506(a)(1)(C) (as amended).
- 236 One panelist observed that the introduction of new technologies has a disruptive impact on established business models and on conventional production and distribution methods. Noam, Tr. I at 258-60. According to this panelist, some people inevitably suffer economic dislocation in the short term, but in the long term the introduction of new technologies is part of the “creative destruction” that drives economic growth in market economies. Id. at 317.
- 237 See generally R. Coase, “The Problem of Social Cost,” 3 J. L. & Econ. 1 (1960).
- 238 According to one panelist, historically “new technologies have invariably ended up creating new business opportunities that enhance the welfare of copyright holders” (citing inventions including the player piano, broadcast radio, color television, cable television, the audio cassette, and video cassette recorders). von Lohmann, Comment 67 and Presentation; von Lohmann, Tr. II at 65-66.
- 239 E.g., RIAA, Comment 26 (citing Palisade Systems, Inc. study, (Mar. 2003), indicating that more than 98% of all music files requested through Gnutella file-sharing programs were copyrighted files). Some panelists estimated that 800,000 music files alone are traded each week. E.g., Besen, Tr. II at 28; von Lohmann, Tr. II at 68.

- 240 This panelist stated that there is “free” entry and exit in the business, “little reputational risk,” and that such file sharing increases providers’ revenue base. Miller, Tr. I at 205.
- 241 E.g., Noam Tr. I at 251-60 and passim. This panelist noted that grass roots movements such as “piracy” can increase network usage and efficiency faster than other methods (such as regulation or a government or business subsidy). This increase accelerates commercial entry for profit because there are fewer up-front costs associated with making the network bigger (and lowering average cost), although the panelist acknowledged that such a movement may not in fact be more economically efficient than a market-based system. Id. at 251-255.
- 242 Other panelists discussed the issue of whether it was moral to use P2P file-sharing programs to share copyrighted works. Compare Augustson, Tr. I at 324, 326-27 (parents should teach their children that copyright piracy is theft) with Pouwelse, Tr. I at 296, 323-24 (young people do not believe that copyright piracy is theft, and the commercial world should adapt to this fact).
- 243 The music file obtained through a P2P file-sharing program may not be a perfect substitute because it may be a “polluted” file. Music distributors may create and distribute versions of songs that have been altered or “polluted,” e.g., a song plays correctly for the first ten seconds, yet the rest of the track consists of only a repeated “blipping” noise. In addition, even if the music itself were the same, what consumers obtain through a P2P file-sharing program may be different from what they obtain from a retail store in that the latter is accompanied by an album cover and liner notes as well as graphics or printing on the CD itself.
- 244 Note that there are some costs associated with downloading a music file from a P2P file-sharing program. For example, a user who downloads files incurs search costs in finding a desired, non-polluted title (although these costs may be low if the file-sharing program offers a good search mechanism and the network of people uploading copyrighted titles is large). Depending on the size of the file and connection speed, the user also may incur a long download time, although this cost is usually lower for music than for movies. Further, the user may face costs associated with the possibility of being held liable for copyright infringement.
- 245 E.g., Sherman, Tr. II at 111-18; Liebowitz, Tr. II at 132-40; see also Potter, Tr. II at 145-54. Single song download companies likely incur the most direct impact from P2P networks. A single song from a legal download site, such as Apple’s iTunes, is essentially identical to the same song that is freely downloadable on a P2P network. Potter, Tr. II at 149. In addition to loss of sales to existing legitimate competitive music services, illegal file sharing may affect competition by depressing investment in new legitimate enterprises to distribute music. See Einhorn, Tr. I at 240-41.
- 246 See discussion infra.
- 247 However, panelists suggested that P2P could be used successfully for artists who do not incur these costs, such as emerging local scene musicians and “legacy acts” such as the Rolling Stones. See Einhorn, Tr. I at 247. Another panelist observed that “in-betweeners,” such as distributors, need to add value to the product for consumers, and that products are not “free” if they have spyware or adware attached. Potter, Tr. II at 146-47.
- 248 Einhorn, Tr. I at 240-41; see also Einhorn, Comment 65.
- 249 E.g., Sherman, Tr. II at 114-15; Newton, Tr. II at 176.
- 250 Einhorn, Tr. I at 245-47.
- 251 Id.

- 252 Id. at 242, 320-22, 327-28. In a recent paper, this panelist and his co-author state that “DRM technology includes encryption and other content controls that limit how users may make and distribute copies of digital files and physical media (e.g., CDs, DVDs) they may have purchased.” See M. Einhorn and B. Rosenblatt, “Peer-to-Peer Networking and Digital Rights Management: How Market Tools Can Solve Copyright Problems,” Policy Analysis (CATO Institute, Feb. 17, 2005) at 2.
- 253 Einhorn, Tr. I at 243-44.
- 254 Id. at 320-22; see also Audience Member, Tr. I at 313; von Lohmann, Tr. II at 72 (stressing the adaptation of copyright industries and encouraging the FTC to investigate barriers in the recording industry to collective licensing solutions). Cf. Smith, Tr. I at 303, 306, 315.
- 255 Pouwelse, Tr. I at 295-96. This panelist argued that the demographic group that uses P2P file-sharing technology the most for downloading and sharing music and songs will reject file-sharing programs utilizing filtering or DRM technologies because the “social demand” of this group of users for file-sharing functionality is grounded in being able to obtain music and songs for free or at a trivial price. In addition, the demand for free downloads will provide incentives for others to satisfy that demand, and there will always be someone who will deliver the free goods. Id.
- 256 Pouwelse, Presentation, Slide 6.
- 257 Lincoff, Comment 23 and Tr. II at 57; see also von Lohmann, Tr. II at 64, 66, 72; Noam Tr. II at 304; Smith Tr. II. at 303; Menell, Tr. II at 99.
- 258 Lincoff, Comment 23 and Tr. II. at 58-59; see also von Lohmann, Tr. II at 72.
- 259 Lincoff, Comment 23 and Tr. II at 59-62.
- 260 Strumpf, Tr. II at 122-23; Oberholz-Gee, Tr. II at 144; von Lohmann, Comment 67 and Presentation.
- 261 Other factors panelists cited that could explain a decline in music sales include the increased popularity and prevalence of music substitutes, including video games, Digital Video Discs (“DVDs”), and the Internet; the recession; radio consolidation; reduced number of music releases; and higher CD prices. Strumpf, Tr. II at 131; von Lohmann Presentation.
- 262 E.g., Smith, Tr. I at 260-69; Yagan, Tr. II at 168-71; Strumpf, Tr. II at 122. Panelist Smith argued that P2P file-sharing technology enables the distribution of content at essentially no cost, and allows consumers with similar tastes to self-cluster, thereby enabling artists and content distributors to target specific audiences. Smith, Tr. I at 266-67. As such, promotional efforts become more cost-effective, and consumers gain access to a greater variety of music, lower search costs, and lower prices. Id. at 267, 264-65.
- 263 E.g., Strumpf, Tr. II at 122.
- 264 One of the panelists asserted that different methods of distribution could allow for more variety. For example, 40-50% of book sales at Amazon.com are books that would not be stocked at off-line bookstores; similarly, P2P networks could lead to a less concentrated distribution channel which would allow consumers to find artists whom they might not otherwise find. Smith Presentation; Tr. I at 263-65. P2P file sharing also may allow independent film makers and artists to have a voice that they do not have in the established distribution channel. Mitchell, Tr. II at 96.
- 265 Yagan, Tr. II at 168-71.
- 266 Scott G (The G-Man), Comment 4.
- 267 Ottolenghi, Tr. II at 158.



- 268 This is an initiative of the DCIA. Id. at 160.
- 269 Carson, Tr. II at 14-15 and Presentation, Slide 2. Copyright law prohibits both the unauthorized copying of the work and the unauthorized distribution of the copy to another. Id.
- 270 Carson, Tr. II at 14.
- 271 E.g., A&M Records, Inc. v. Napster, Inc., 239 F.3d 1004 (9th Cir. 2001); In re Aimster, 334 F.3d 643 (7th Cir. 2003); Metro-Goldwyn Mayer Studios v. Grokster, Ltd., 380 F.3d 1154 (9th Cir.), petition for cert. granted, 125 S. Ct. 686 (No. 04-480) (Dec. 10, 2004).
- 272 Carson, Tr. II at 15.
- 273 Id. at 15-16 and Presentation, Slide 3; Grokster, 380 F.3d at 1160.
- 274 Carson, Tr. II at 16 and Presentation, Slide 3; Grokster, 380 F.3d at 1164.
- 275 Sony Corp. v. Universal City Studios, Inc., 464 U.S. 417 (1984).
- 276 E.g., Napster, Inc.; Aimster.
- 277 E.g., Grokster.
- 278 Id.
- 279 See Brief for Motion Picture Studios and Recording Company Petitioners, Grokster, No. 04-4870 (U.S.) (filed Jan. 24, 2005), available at [http://www.abanet.org/publiced/preview/briefs/pdfs\\_04-05/04-480MotionPet.pdf](http://www.abanet.org/publiced/preview/briefs/pdfs_04-05/04-480MotionPet.pdf).
- 280 The workshop addressed many issues other than the intellectual property issues addressed in Grokster. FTC staff believes that it is important to address these other issues now rather than delay addressing them until the comprehensive implications of the Grokster decision are fully understood.



# APPENDIX A

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# AGENDA

December 15-16, 2004



## Peer-to-Peer File-Sharing Technology: Consumer Protection and Competition Issues Public Workshop

### DAY ONE

9:00 Opening Remarks: **Chairman Deborah P. Majoras**

9:15 **Panel One:** Introduction: P2P and How it Works

Moderator: **Mary K. Engle**, Associate Director  
Division of Advertising Practices  
Bureau of Consumer Protection

Panelists:

**Keith Ross**, Professor of Computer Science, Polytechnic University

**Mark Ishikawa**, Chief Executive Officer, Bay TSP

**Adam Toll**, Chief Operating Officer, Big Champagne

10:15 Break

10:30 **Panel Two:** Risks to Consumers Related to P2P File-Sharing Activities

Moderator: **Elizabeth Delaney**  
Division of Advertising Practices  
Bureau of Consumer Protection

Panelists:

**Linda Koontz**, Director, Information Management Issues, Government Accountability Office

**Michelle Collins**, Director, Exploited Child Unit, National Center for Missing  
and Exploited Children

**John Hale**, Associate Professor of Computer Science and Director,  
Center for Information Security, The University of Tulsa

**Nathaniel Good**, University of California, Berkeley, School of Information Management  
and Systems; and **Aaron Krekelberg**, Software Architect for the Office of Information  
Technology, University of Minnesota

**Marty Lafferty**, Chief Executive Officer, Distributed Computing Industry Association  
**Stanley Pierre-Louis**, Senior Vice President, Litigation, Recording Industry Association of America

11:30 **Panel Three:** Technological Responses to Protect Consumers Using P2P File-Sharing Programs

Moderator: **Beverly Thomas**  
Division of Advertising Practices  
Bureau of Consumer Protection

Panelists:

**Vance Ikezoye**, Chief Executive Officer, Audible Magic Corporation

**Jerald Block**, Co-Founder, SmartGuard Software

**Jules Polonetsky**, Vice President, Integrity Assurance, America Online

**Marc Freedman**, President and Chief Executive Officer, RazorPop

**Bob Kessinger**, Operations Director, Cyber Patrol Division of SurfControl

12:30 Lunch

1:45 **Panel Four:** Government and Private Sector Responses to Protect Consumers Using P2P File-Sharing Programs

Moderator: **Thomas Pahl**, Assistant Director  
Division of Advertising Practices  
Bureau of Consumer Protection

Panelists:

**David Israelite**, Chairman of the U.S. Department of Justice's Intellectual Property Task Force

**Jerry W. Kilgore**, Attorney General of Virginia

**James C. Miller**, Chairman, CapAnalysis Group, LLC

**Adam Eisgrau**, Executive Director, P2P United

**Lydia Parnes**, Acting Director, Bureau of Consumer Protection

**Parry Aftab**, on behalf of Wiresafety.org

2:45 Break



3:00 **Panel Five:** The Future of P2P Technology: Effects on Efficiency and Competition

Moderator: **Alden Abbott**  
Associate Director for Policy & Coordination  
Bureau of Competition

Panelists:

**Michael D. Smith**, Assistant Professor of Information Technology and Marketing,  
Carnegie Mellon University

**Johan Pouwelse**, Faculty of Information Technology and Systems,  
Delft University of Technology, The Netherlands

**Eli Noam**, Professor, Columbia Business School and Director,  
Columbia Institute for Tele-Information

**Michael Einhorn**, Economist and Consultant, Consor Intellectual Asset Management

**Clay Shirky**, Professor, Interactive Telecommunications Program, New York University

**Andrew Chin**, Professor, Antitrust and Intellectual Property,  
University of North Carolina School of Law

**J. Gary Augustson**, Vice Provost, Information Technology,  
The Pennsylvania State University

5:00 Closing Remarks: **Lydia Parnes**, Acting Director, Bureau of Consumer Protection

## DAY TWO

9:00 Opening Remarks: **Commissioner Pamela Jones Harbour**

9:15 **Panel Six:** P2P File-Sharing and Its Impact on Copyright Holders

Moderator: **John Delacourt**  
Chief Antitrust Counsel  
Office of Policy Planning

Panelists:

**Stanley Besen**, Vice President, Charles River Associates

**Peter Menell**, Professor of Law, University of California at Berkeley School of Law,  
and Executive Director, Berkeley Center for Law & Technology

**Dean Garfield**, Vice-President and Director of Legal Affairs, Worldwide Anti-Piracy,  
Motion Picture Association of America



**Andrew Moss**, Director Worldwide Technical Policy, Microsoft

**Fred von Lohmann**, Senior Staff Attorney, Fair Use and Intellectual Property,  
Electronic Frontier Foundation

**David Carson**, General Counsel, U.S. Copyright Office

**Bennett Lincoff**, solo practitioner, former Director of Legal Affairs for New Media at ASCAP

**Mark Bohannon**, General Counsel & Senior Vice President Public Policy,  
Software & Information Industry Association

11:00 Break

11:15 **Panel Seven: P2P File-Sharing and Music Distribution**

Moderator: **Hajime Hadeishi**  
Bureau of Economics

Panelists:

**Cary Sherman**, President, Recording Industry Association of America

**Koleman Strumpf**, Department of Economics, University of North Carolina,  
and **Felix Oberholzer-Gee**, Harvard Business School

**Stan Liebowitz**, Director, Center for the Analysis of Property Rights and Innovation,  
and Professor of Managerial Economics, University of Texas at Dallas

**Jonathan Potter**, Executive Director, Digital Media Association

**Les Ottolenghi**, President, INTENT MediaWorks LLC, and Member,  
P2P Revenue Engine Project

**Sam Yagan**, President, eDonkey/Metamachine

**Wood Newton**, Songwriter, Nashville Songwriters Association International

**Michael Bracy**, Co-founder and Policy Director, Future of Music Coalition

1:00 Closing Remarks: **Susan Creighton**, Director, Bureau of Competition





# APPENDIX B

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# ***Peer-to-Peer (P2P) Software Risks***

**Standardized Consumer Disclosures Solution  
To Be Universally Applied By Complying P2P Software Suppliers**

Developed by the Consumer Disclosures Working Group (CDWG)

*PART 1 -- The following copyright warning will be prominently displayed each time a user installs a new version of P2P software developed and distributed by participating companies:*

**“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.”**



Welcome to the largest of the music networks!

Homepage | Blubster 2.5 Available! | Help

**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.**

**Blubster proudly presents:  
One World Beat 2004**

*A message from Pablo Soto*

Dear Blubsters,

One World Beat Global Music Festival 2004 is our chance to help make a difference. It's a 3 day long series of concerts and events taking place simultaneously across the globe, all for the purpose of raising money for children with HIV / Aids.

All participating artists are donating all or part of the proceeds of their gigs to 'Keep a Child Alive' - a charity dedicated to providing life-saving medicine to children and families.

We can support this worthwhile project by doing the following:

- We can go to one of the many planned events ([click here to find an event near you](#))
- We can tell our friends to logon to the [One World Beat website](#) and make a donation
- And we can volunteer to help with the project. Find out





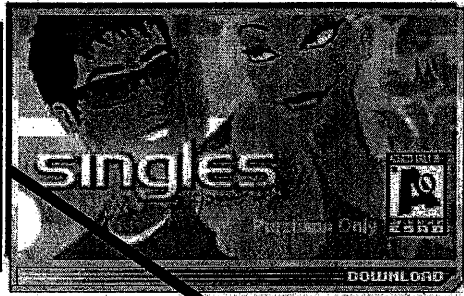
Search for files IP2PI Web Search

SEARCH

Support the Artist. Buy the Record.

MUSIC VIDEO/FILM GAMES SOFTWARE GROMSTER SHOP

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



Title: Singles | Genre: Simulation | Size: 440meg



Title: Isodrive To A Swan  
Genre: Rock  
Size: 68meg



Title: Motion City Soundtrack  
Genre: Punk  
Size: 33meg



10-21  
Where: New York, NY



GoldFiles are safe, high-quality downloads that support the artists and developers.

ALL ABOUT PeerPoints

Share GoldFiles, earn PeerPoints, redeem them for all kinds of goods!



Title: Beach Life  
Genre: Simulation  
Size: 480meg



Title: DVD Picture show 2  
Genre: Graphics/Multimedia  
Size: 31meg



Weapons of Mass Belief  
Where: Wales, UK

channels

- Russell Simmons HipHop
- The G-Spot Games for Gamers
- SoftShare
- supermovies
- Street Waves
- Emerging Artists
- One Love Reggae & Dancehall

Shop: Best Buy Circuit City Columbia House Dell (Home) Dell (Business) Delta Airlines Expedia eBay Gap Hotwire HPshopping.com NetFlix Network Solutions Overstock Register.com Sharper Image Staples Target Wal-Mart 1-800-flowers

privacy policy | end user license agreement | about grokster | contact us  
customer support/faq | news | copyright law | parent resources



Powered by: www.superadults.net

Audio | Games | Software | Video | Create

English(US)

**Kazaa** Search    
 Search For Files (P2P)  Web Search [New to Kazaa?](#)

Sponsored by:

 <b>Buy a Wave® radio/CD</b>  <b>Receive a free Time-Life 2-CD set.</b> Ends 8/28/04 <a href="#">Click Here &gt;&gt;</a>	 <b>18 WHEELS OF STEEL</b> ACROSS AMERICA (Driving) <a href="#">MORE INFO</a>	 <b>GET DAILY VIDEO DOWNLOADS HERE!</b> (Punk) <a href="#">MORE INFO</a>	 <b>SCREENING HITS</b> (Rock) <a href="#">MORE INFO</a>		
	 <b>Kazaa Shop</b> Compare Prices and Save!	 <b>Risk II</b> (Strategy)	 <b>LIVE MUSIC WARPED '03</b> (Punk)	 <b>Civilization III Game of the Year Edition</b> (Strategy)	 <b>Photoshow Express</b> (Design Utilities)

**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.**

Learn how to: [Virus Protection](#)

[Home](#)
[iMesh](#)
[sh](#)
[what's Up](#)

[Home](#)
[Music](#)
[Video](#)
[Games](#)
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[Ringtones](#)

**NEWS**  
**iMesh 5 is almost ready**  
 The new version of iMesh is a completely new program which gives you a lot of exciting features, like:
 

- Connection to 3 most popular P2P networks
- Accelerated web and FTP download
- Brand new user interface

 Want to be the first to enjoy our new version? [Click here!](#)

**Game Center**

**TOP GAMES**  
**Summer Games 2004**  
 Experience the fascination of different Olympic disciplines live and realistically on your PC.  
[TRY IT & BUY IT](#)

**TOP GAMES**  
**Airport Tycoon 3**  
 In Airport Tycoon 3 you'll establish yourself as an airport mogul as you strive to build and manage the busiest airport in the world.  
[TRY IT & BUY IT](#)

**COOL SOFTWARE**  
**Say Goodbye To Spam**  
 Protect your Outlook inbox from Spam and viruses with SpamExtract. Receive the e-mails you want, block the ones you don't!  
[TRY IT & BUY IT](#)

**FEATURED ARTIST**  
 Artist: Empty Wallet  
 Genre: punk

**TOP GAMES**  
**Ricochet Lost World**  
 Ricochet: Last World's could

**COOL SOFTWARE**  
**Audio converter .mp3**  
 This user friendly audio

**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.**

Downloads: 0 | Uploads: 0 | Online: 0% | 2982171 Online Users





### Welcome!

Thank you for trying TrustyFiles 2.2 with **Simply the Most Results**, the only software with personal, private, and public file sharing! Plus **NO spyware** and **NO added software**.

### What's New with TrustyFiles 2.2.

- **Download from Bit Torrent.** Use TrustyFiles to search and download torrent files over the Kazaa and Gnutella networks. TrustyFiles automatically searches for more sources, downloads the torrent, seeds the torrent, and connects to the Bit Torrent network to download the file. TrustyFiles can also open torrents you found and downloaded from torrent web sites.
- **Expanded multi-network access.** TrustyFiles now supports Kazaa (Fast Track), Gnutella, Gnutella2, and Bit Torrent.
- **Simply the Most Results.** TrustyFiles' streamlined P2P engine provides maximum files and fast download.

**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.**

### Help Center

*Please visit our online resources for information and support*

**Installation or startup problems?**  
Check Update Info for release notes and installation instructions.

**Software Help** provides an overview on file sharing, how to use TrustyFiles, software tips, and links to various help pages.

Use our **Support Forums** for detailed help, FAQs, and to submit questions or give feedback.

Visit the TrustyFiles software home page to find software announcements and updates, newsletters, special offers, and music, video, and other file links that you can download.

*PART 2 -- The following risk alert will be prominently displayed in a framed message box above-the-fold on the home pages of websites of participating P2P software companies:*

**Click here for important information  
about P2P software risks.**

Welcome to the largest online music network!



HOME PAGE | TECHNOLOGY | SCREENSHOTS & FEATURES | PRESS RELEASES | YOUR PRIVACY | CONTACT US

# get blubster today!

CLICK HERE TO DOWNLOAD IT FOR FREE!

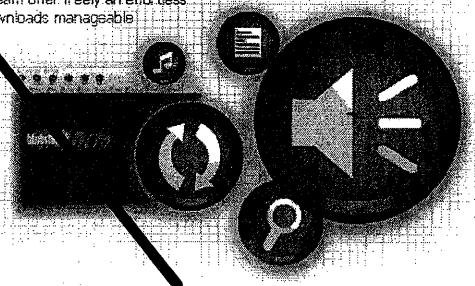
Download Blubster



Welcome to Blubster, the newly improved and enhanced music community. Become a "Blubzie" and start enjoying of all the new features and advantages this worldwide file-sharing network offers you. **Blubster is FREE!**

Blubster is designed to make the P2P experience uncomplicated for anyone. Bearing in mind some of you will not be familiarized with the mp3 download process, we at the Blubster team offer freely an effortless file-sharing program that will make all your music downloads manageable in a fast and easy way.

- Free music downloads
- Easy-to-use and user-friendly
- The fastest searches, the fastest downloads
- Multi-source and autoresumeable downloads
- Unlimited scalability
- Totally decentralized, anonymous network
- Brand new internal player
- Hot List/Buddy list
- Chat and Voice chat
- Advanced searches
- Collection and playlist manager
- Web links support, SHA-1 Hashing



**Click here for important information about P2P software risks.**

free software

# iMesh

LEADING PEER-TO-PEER NETWORK

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## download free iMesh 4.5



### What is iMesh?

iMesh 4.5 is the latest version of our leading file sharing program. With millions of registered users, iMesh gives you access to countless types of digital media and other files that are made available by all other iMesh users, plus your special professional content providers and more. All of it completely free for download!

**Click here for important information about P2P software risks.**

### iMesh International

iMesh is a true worldwide community, linking millions of users around the globe. We realize that not all of our users speak English and want to make sure that everyone can use iMesh. Click on the appropriate button below for more information about iMesh in your own language.

Deutsch	Français	Italiano	Español
Português	Svenska	Nederlands	Polski
Türkçe	עברית	简体中文	繁體中文

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The Broadband Phone Company

CALL ANYWHERE  
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broadband connection.

\$29.99  
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Support the Artist. Buy the Record.

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- Download
- Tell A Friend
- Free Newsletter
- Artist Services
- Help / FAQ
- About Us
- Policies
- Privacy Policy
- Link To Us
- Contact Us
- Press
- Affiliates
- Links
- Copyright Law
- Parent Resources
- Advertise



Next Generation File Sharing

**Click here for important information  
about P2P software risks.**

GROKSTER FREE

Get Grokster!

Download Now

GROKSTER PRO

SUPPORT GROKSTER  
NEW! AD-FREE \$29.95  
DOWNLOAD

Grokster Pro

Get Grokster Pro and help  
support Grokster! Receive  
an AD-FREE version of  
Grokster for only \$29.95!  
You will never see another  
ad from Grokster again!

**FED**  
UNITED

FIGHTING FOR THE FUTURE

Click here for important  
copyright and consumer  
protection information!

- Shopping:**
- Best Buy
  - Circuit City
  - Columbia House
  - Dell (Home)
  - Dell (Business)
  - Delta Airlines
  - Expedia
  - eBay
  - Gap
  - Hotwire
  - HPshopping.com
  - NetFlix
  - Network Solutions
  - Overstock
  - Register.com
  - Sharper Image
  - Staples
  - Travelocity
  - Walmart

- **Free:** Grokster is 100% free to use.
- **Fast, Detailed Searches:** Grokster's SuperNode technology provides for the fastest searches. Grokster tracks detailed file info and allows detailed searches on it. Grokster will also track and remember up to 24 simultaneous searches.
- **Participation Level:** Grokster users can get priority in downloading by actively sharing and rating files.
- **Publishing:** Publishing self-authored content is easier than ever. Grokster includes the My Shared Folder. Placing novels, photos, articles, artwork, music, animation, and independent films a "drag and drop" away from the rest of the world.
- **Magnet Links:** Transform Grokster into a powerful, no cost distribution platform for authors and artists all over the world. Investigative journalists, dissenting activists, and uncompromising creators can take advantage of the fastest growing medium on the planet.
- **Auto Resume:** Grokster will automatically seek out the same file from multiple sources and continue downloading until complete.
- **Fastest Downloads:** Grokster will download the file from multiple sources with the fastest connections automatically.
- **File Preview:** Preview files as you start downloading them.
- **All File Types:** Share any type of file.

- NO spyware or added software
- Kazaa, Gnutella/2, Bit Torrent
- Personal & Private File Sharing
- "The Best P2P Network Engine in the Business."



Free Download

Download Now!

Why TrustyFiles

Software Help

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Support

Newsletter

Links

Visit our sister sites

**DIARIAA**

It's my music and I'll share if I want to

**Stand up for your rights!**

Get file sharing news, protect your privacy, & explore 1000s of digital music and P2P links.

Newsletter | News | P2P

**TopP2P**

Top Music, Video, & Games  
Free and Legal P2P Files

**P2P the way you want it.** Top music, video, and game hits. Free and legal. One click P2P links. Auto

## What do you want to download today?

**New!** TrustyFiles 2.2 adds Bit Torrent access

Imagine a rich universe of music, movies, games, and software. Hot tunes, killer videos and pics, rad games... Explore new tastes and genres. Rediscover forgotten pleasures... Revel in 10 billion files and choose among thousands of search results. Enjoy a single click to share or save for the fastest downloads.

The dream lives today - free file sharing, no spyware, no added software, multiple network access including Kazaa, Gnutella, and BitTorrent. A state-of-the-art P2P file sharing engine for the most results. Pure P2P. Only with TrustyFiles.

**Click here for important information about P2P software risks.**

### Why limit yourself to one network or download software that adds OTHER software to your PC???

We dare you to compare!			Morpheus	Kazaa
<b>MULTIPLE NETWORKS</b>	Includes Kazaa, Gnutella, & Bit Torrent	✓	✗	✗
<b>VALUE</b>	Free, NO spyware, NO added software	✓	✗	✗
<b>FREEDOM</b>	Personal, Private, &	✓	✓	✓

### Feature Summary

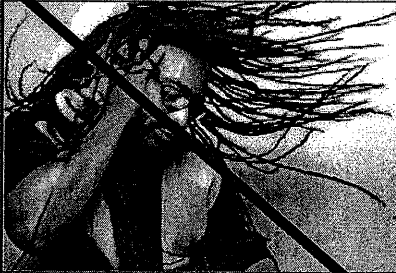
- FREE
- Easy to Install/ Easy to Use
- NO spyware, NO added software
- Share a File/ Share a Search
- Integrated Web searches
- Internet access blocklist
- Virus scanning
- Advanced P2P Network Engine
- Search, download, and share on Kazaa, Gnutella, Gnutella2, & BitTorrent
- Multiple simultaneous searches
- Fast search results
- Unlimited and global search results
- Multisource downloading
- Partial file downloading
- MORE buttons for additional integrated results
- File compression
- TrustyLinks for personal, private



Francia | Deutsch | Italiano | Español | Português

Downloaded Last Week: 1,496,700 Total: 365,176,277

FEATURES | THE GUIDE | PRIVACY | ABOUT US | HOME



# Kazaa v2.7 <sup>Free</sup>

- Exclusive Search Features
- Lightning Fast Downloads
- Built-in Virus Protection
- Having Kazaa is 100% Legal Important Info

**Get it Now!**

Search for and download music, movies, games, software, images, and documents.

Latest News: US courts affirm Kazaa 100% legal

The 9th Circuit Appeal Court declared that Kazaa software does not infringe US copyright laws. [Read More](#)

What you get with Kazaa

SEARCH	SAFE	EASY	REACH
<ul style="list-style-type: none"> <li>Search Agent Scans 24/7</li> <li>Up to 24 Simultaneous Searches</li> <li>Multiple Search Result Tabs</li> <li>Up to 5 Search More's</li> <li>Download from Multiple Sources</li> <li>More</li> </ul>	<ul style="list-style-type: none"> <li>Built-in BullGuard Virus Protection - Exclusive to Kazaa!</li> <li>Kazaa Virus Filter Blocks Suspect Files</li> <li>Adult Content Filters - Password Protected</li> <li>Having Kazaa is 100% Legal. <small>Important Info</small></li> <li>More</li> </ul>	<ul style="list-style-type: none"> <li>Customizable Toolbars</li> <li>Gold/Blog Icons</li> <li>Preview Files</li> <li>Online User Guide</li> <li>More</li> </ul>	<ul style="list-style-type: none"> <li>Global - Millions of Peers</li> <li>Promote Your Blog</li> <li>Publish Self-authored Content</li> <li>Magnet Links</li> <li>More</li> </ul>

**Click [here](#) for important information about P2P software risks.**

- How is Kazaa Free?
- Read parents guide
- Watch a demo
- Learn about P2P

Get Kazaa v2.6.4 in your language: Français | Deutsch | Italiano | Español | Portuguese

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Copyright © Sharan Networks Ltd. does not condone activities and actions that breach the rights of copyright owners. As a Member user...

*PART 3 -- In addition to "here" (in the preceding message boxes) linking to the following page on each participating website, this message box and page link will also appear each time the user opens the P2P software, for example in a pop-up window or on the homepage.*

*On the following risks disclosures page, please note that risks are listed alphabetically, and any future risks would be added in alphabetical order.*



## P2P Software Risks

Click [here](#) for information from the US Federal Trade Commission (FTC).

**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.

**Data Security** - P2P software allows any user to access the files you place or move into your shared folder. If you're not careful, files containing your personal and confidential information could inadvertently be uploaded for distribution on the Internet. This could cause a number of problems, including identity theft. Click [here](#) for information about how this P2P software application can help you avoid data security problems.

**Pornography** - Files downloaded from the Internet using P2P 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. Click [here](#) for information about how this P2P software application can help you avoid inadvertent exposure to pornography and illegal redistribution.

**Spyware** - Files downloaded from the Internet using P2P software may contain spyware that can track your online activity, control your computer, or harm its operation. These files typically are disguised and can go undetected. Click [here](#) for information about how this P2P software application can help you avoid spyware and about the differences between legitimate adware and spyware.

**Viruses** - Files downloaded from the Internet using P2P software may carry computer viruses, worms, or trojans that can damage your computer or cause other problems. These files typically are mislabeled to disguise their true purpose. Click [here](#) for information about how this P2P software application can help you avoid computer viruses.

*By clicking "here" (at the top of the preceding page) users will link to the following document posted online by the US Federal Trade Commission (FTC), where they can obtain additional important information about P2P software applications.*



## FTC Consumer Alert

PDF Version



### File-Sharing: A Fair Share? Maybe Not.

Every day, millions of computer users share files online. Whether it is music, games, or software, file-sharing can give people access to a wealth of information. You simply download special software that connects your computer to an informal network of other computers running the same software. Millions of users could be connected to each other through this software at one time. The software often is free and easily accessible.

Sounds promising, right? Maybe, but make sure that you consider the trade-offs. The Federal Trade Commission (FTC), the nation's consumer protection agency, cautions that file-sharing can have a number of risks. For example, when you are connected to file-sharing programs, you may unknowingly allow others to copy private files you never intended to share. You may download material that is protected by the copyright laws and find yourself mired in legal issues. You may download a virus or facilitate a security breach. Or you may unwittingly download pornography labeled as something else.

To secure the personal information stored on your computer, the FTC suggests that you:

- Set up the file-sharing software very carefully. If you don't check the proper settings when you install the software, you could open access not just to the files you intend to share, but also to other information on your hard drive, like your tax returns, email messages, medical records, photos, or other personal documents.
- Be aware of spyware. Some file-sharing programs install other software known as spyware. Spyware monitors a user's browsing habits and then sends that data to third parties. Sometimes the user gets ads based on the information that the spyware has collected and disseminated. Spyware can be difficult to detect and remove. Before you use any file-sharing program, you may want to buy software that can prevent the downloading of spyware or help detect it on your hard drive.
- Close your connection. In some instances, closing the file-sharing program window does not actually close your connection to the network. That allows file-sharing to continue and could increase your security risk. If you have a high-speed or

*By clicking "here" (at the end of each disclosure) users will link to a relevant section of the participating company's website, where they can obtain additional important information about how that particular application can help them avoid or mitigate each respective risk.*



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## Security and Privacy

Anytime you use the Internet you need to be careful to ensure that your private information is kept safe and confidential. Using peer-to-peer technology like Grokster is no different. The three main areas to be aware of are:

- [Safe sharing](#)
- [Viruses](#)
- [Your privacy](#)

### Safe Sharing

Grokster, enables you to share files with other users, which is encouraged. However, it is important to ensure that you choose carefully which files you want to share. Don't share files which are confidential, such as financial information, or which you do not have the right to distribute.

For this reason, it is safest to use 'My Shared Folder', (usually found on your Desktop), which will be automatically set up as the folder to which files are downloaded. This means that all files inside 'My Shared Folder' are available for other Grokster users to find and download from you. New files that you download will automatically go into 'My Shared Folder'.

If you want to share other files (which is a good thing to do) you can copy them into 'My Shared Folder' through the Windows Explorer program.

#### Important Note

**When you select a folder to share, all files and sub-folders inside that folder will be available for other Grokster users to download. Please take great care not to accidentally share files that are confidential or which you do not have the right to distribute. It is highly recommended that you do not share your entire hard drive or 'My Documents' folder.**

### Viruses

Most files that are accessible using Grokster originate from other users. This means that there will always be the risk of irresponsible users introducing viruses. The Grokster team is working hard to develop solutions to make



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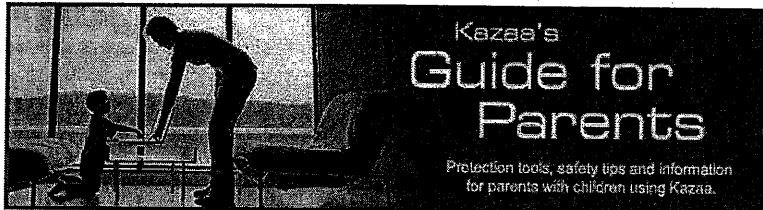
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The Guide - Kazaa's Guide for Parents



1. Understanding how files appear in Kazaa
2. How can I manage what my children see on Kazaa?
3. How can I protect against viruses?
4. What do I do if I find something that I think is inappropriate?

Peer-to-peer technology is a powerful resource that gives people the ability to find virtually any kind of digital media file. Peer-to-peer applications like Kazaa allow people to perform research, communicate, share ideas, and connect with each other across the globe.

Kazaa is the world's most popular file sharing application and is used by people of all ages. Responsible, active sharing is the key to a great peer-to-peer experience, and it is the responsibility of each individual to carefully choose which files they share.

For your peace of mind as a parent and to protect your children from being exposed to files that may contain offensive or potentially harmful content, Sharman Networks has developed features in Kazaa that are designed specifically to minimize this risk of exposure.

This section covers what these features are and how you can use them to ensure that you and your children have the best experience possible using Kazaa.

*To provide your comments to the  
Consumer Disclosures Working Group  
as to the value and usefulness of the  
foregoing P2P software risks disclosures  
and to make recommended changes  
please e-mail [cdwg@dcia.info](mailto:cdwg@dcia.info).*

**Thank You**





# APPENDIX C

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**P2P UNITED MEMBER  
CONSUMER ADVISORY  
BANNER/TEXT BOX**

*Click Here* for Important Information  
about Using P2P Software Safely

**NOTE:** *The graphic above has been enlarged for the reader's convenience.  
In actual use, it will be scaled appropriately to the screens on which it  
appears and, in any event, will be displayed prominently and conspicuously.*

## *Appendix B*

*The following information is provided as a public service by the peer to peer software member companies of P2P United ([www.p2puned.org](http://www.p2puned.org)). Please also read the important Consumer Alert concerning peer to peer software from the U.S. Federal Trade Commission.*

### P2P UNITED [or member company] PEER-TO-PEER SOFTWARE USER ADVISORIES

**Copyright Infringement Liability** – P2P technology makes it possible to share all kinds of information. Some information is protected by copyright, which means that you generally need the copyright owner's permission before you make it available to other P2P users. **Popular music, movies, games, and software are often protected by copyright.**

**Copyright infringement can result in significant monetary damages, fines and even criminal penalties.** Some copyright owners have filed civil lawsuits against individuals that they believe unlawfully distributed large numbers of copyrighted songs. You can learn more about copyright laws at [www.p2puned.org/copyright.php](http://www.p2puned.org/copyright.php).

Click [here](#) for information about how to use this P2P software application to minimize or avoid copyright infringement.

**Data Security** – P2P software programs let users share information with other users around the globe. They allow users to view the contents of each others' "shared folders." If you have personal information in your shared folder, anyone else using the same P2P software has access to it. Another user could use that information to commit identity theft, or to embarrass you. Please pay attention to the files that you place in, or download to, your shared folder. Don't put information in your shared folder that you aren't comfortable sharing with strangers.

In particular, do not put tax, medical, banking, correspondence or any other sensitive personal files in the same folder as files that are shared via your P2P software program.

Click [here](#) for information about how to use this P2P software application to minimize or avoid these data security problems. To report identity theft, or for more information about identity theft, please consult the Federal Trade Commission's Identity Theft Clearinghouse at [www.consumer.gov/idtheft/](http://www.consumer.gov/idtheft/).

**Unwanted Exposure to Pornography** – P2P software may give users, including children, access to pornography. Some files containing pornography may be deliberately mislabeled to attract young or otherwise unsuspecting viewers. Distributing illegal pornography is a serious crime. Users whose shared folders contain illegal pornographic material, *particularly child pornography*, could be subject to criminal prosecution.

Click [here](#) for information about how to use this P2P software application to minimize or avoid inadvertent exposure to pornography or the illegal redistribution of such materials.

The member companies of P2P United believe strongly that we all must stamp out child pornography. [Click here to report suspected child pornography or pornographers to US law enforcement.](#)

**Spyware** – Files downloaded from the Internet (including those obtained via P2P software) may contain other software. While some such programs, such as “adware,” may send you advertising, including pop-up ads, other software, such as “spyware” can track your Internet activities and report them to a third party. Spyware can even be used to take control of your computer. P2P United’s members adhere to a [Code of Conduct](#) that prohibits them from downloading software (including adware) to your computer without your knowledge and consent.

Click [here](#) for information about how to use this P2P software application to minimize or avoid spyware and for information about the differences between legitimate adware and spyware.

**Viruses** - Files downloaded from the Internet (including those obtained via P2P software) may contain viruses that can infect your computer. These files typically are mislabeled to disguise their true purpose. You may want to install anti-virus software, and keep it up-to-date.

Click [here](#) for information about how to use this P2P software application to minimize or avoid computer viruses.

For more information, P2P United strongly recommends that the public consult the Federal Trade Commission’s website at [www.ftc.gov/infosecurity](http://www.ftc.gov/infosecurity) and the Commission’s Consumer Alert at [www.ftc.gov/bcp/conline/pubs/alerts/idsalrt.htm](http://www.ftc.gov/bcp/conline/pubs/alerts/idsalrt.htm).



