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# The 21<sup>st</sup> Century Internet: A Digital Copy Machine: Copyright Analysis, Issues, and Possibilities

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## I. Introduction

1. The Internet has changed dramatically in the past decade. Although this statement seems obvious, the shift from an information and communication medium to an entertainment medium (coupled with the advent of broadband connectivity) has turned the Internet into a global copy machine that is rife with possible (and probable) copyright infringement. In the 21<sup>st</sup> Century, the Internet's use as a global digital copy machine can be problematic for society, especially if copyright protection falls by the wayside. The Morpheus file sharing utility and the second generation Digital Video Recorders (DVRs) exemplify these problems.
2. In attempting to understand the correct way to regulate the Internet and its users, one must look at the norms of the Internet as well as its underlying architecture.<sup>1</sup> Also, one must understand that the Internet's architecture consists of more than just the World Wide Web. The Internet can be broadly defined as any information sharing that happens over the IP protocol.<sup>2</sup> In the future, more applications and perhaps even appliances will communicate via the Internet.
3. To explore these issues of differences in code and the inherent nature of the Internet as a digital copy machine, this article seeks to explore and analyze two vastly different case studies of consumer products that utilize the Internet for copying. This article examines the copyright issues involved in copying over the Internet.
4. Part II is a case study on second generation DVRs. It analyzes the first and second generation DVR technology and how it relates to copyright law and the Internet. Most specifically, the sharing of television content via the Internet will be explored and analyzed under copyright law. Part III is a case study of the Morpheus file sharing utility and those similar to it.<sup>3</sup> Since peer-to-peer file sharing has been widely discussed in connection with the Napster litigation,<sup>4</sup> the legal analysis will be confined to those differences between Morpheus and its predecessor (Napster). Part III will also evaluate the utility's relation to the copyright standards set forth in Part II. Copyright analysis for musical compositions and for audiovisual works illustrates the fact that Morpheus allows copying audiovisual works and falls under the same copyright rubric as the

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<sup>1</sup> Some call this code-based regulation. One commentator calls for code-based regulation to be the primary means of effectuating regulation of the Internet. See LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE (1999) (hereinafter LESSIG, CODE).

<sup>2</sup> IP stands for "Internet Protocol," and should not be confused with "intellectual property." The most notable protocol that runs over IP is TCP/IP (Transport Control Protocol / Internet Protocol), which "the Internet" switched to in 1983. See <http://www.csse.monash.edu.au/courseware/cse3323/CSE3323-2000/copy-in-sli/node17.html> (last visited on Sept. 20, 2002); <http://homepages.ius.edu/rwisman/A348/html/TCP.htm> (last visited on Sept. 20, 2002).

<sup>3</sup> Morpheus is the most famous example, but these include all software that works on the Morpheus network. To this author's knowledge, these include Morpheus ([www.musiccity.com](http://www.musiccity.com)), KaZaA ([www.kazaa.com](http://www.kazaa.com)) and Grokster ([www.grokster.com](http://www.grokster.com)).

<sup>4</sup> See e.g. Stacey L. Dogan, *Perspectives on Intellectual Property: Is Napster a VCR? The Implications of Sony for Napster and Other Internet Technologies*, 52 HASTINGS L.J. 939 (2001).

DVRs.<sup>5</sup> Part IV will evaluate regulation issues, as well as the big picture and small picture of intellectual property regulation on the Internet. It will also analyze the differences and challenges in regulation between the two case studies. Part V will draw conclusions based on the hypothesis set forth in this article.

## II. Case Study 1: Second Generation DVRs

### A. Introduction to DVRs

5. Losing the *Sony Corp. of Am. v. Universal City Studios, Inc.* (*Sony*) case was a blessing in disguise for copyright holders of audiovisual works.<sup>6</sup> Today, home video and DVD revenues are an important source of profits for the major film studios. This can partly be attributed to the fact that the United States Supreme Court decided that, under copyright law, (1) it was fair use to watch broadcast television programs at a later time (“time-shifting”) and, borrowing from patent law, that the manufacturer of a staple article of commerce that has commercially substantial non-infringing uses should not be liable for any direct copyright infringement of others (known as the “staple article of commerce” doctrine. The proliferation of the second generation Digital Video Recorder (“DVR”) will cause the legal system to further erode copyright’s “staple article of commerce doctrine,” as set forth by the Supreme Court in *Sony*.<sup>7</sup> Technology has emerged which will lead to an unfair result for copyright holders under the current copyright regime, such as the post-Napster file sharing services.<sup>8</sup>

### B. The DVR Technology

#### 1. First Generation DVRs

6. The first DVRs arrived to the mainstream public in the United States in 1999. There were two primary companies that provided service to the DVRs, ReplayTV and TiVo. Phillips and Sony manufactured the actual hardware, and TiVo and ReplayTV administered the service for their respective DVRs. Both brands of service worked in a similar way.
7. The first generation DVRs have many features that surpass those of an analog VCR. The following is a list of some of these DVR-specific features from both the TiVo and ReplayTV first generation models that are pertinent to this inquiry on copyright law.
8. *The ability to pause “live” television with a DVR.* While watching a television

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<sup>5</sup> In other words, the standard set forth in *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417 (1984), is applicable to both case studies.

<sup>6</sup> See generally, *Sony*, 464 U.S. 417.

<sup>7</sup> See *Id.*

<sup>8</sup> See *infra* Part III.

show live (over the air or on cable or satellite), the DVR will record the show you are watching in its memory. Since it is not recording on an analog “tape” like the VCR, it can continue recording the incoming stream of video uninterrupted, while the consumer has the screen paused. The user can resume watching this television show as if it had been paused on a pre-recorded tape and then resumed. This could not be accomplished with a VCR because it is analog, and there is only one position the tape can be in at a given moment (i.e. it cannot record something and play something else back simultaneously).

9. *The ability to jump directly to a moment in time without having to fast-forward or rewind.* For example, on a 60-minute television show, a user could go directly to minute 32 without having to fast-forward through the rest of the show. This is typically referred to as “Random Access.”<sup>9</sup>
10. *The ability to automatically record all instances at which a show is broadcast.* TiVo affectionately calls this the “Season Pass.” For instance, if a user enjoys *The West Wing*, he could set his DVR to record *The West Wing* every time it is broadcast. The DVR can automatically adjust for lineup changes if, for example, a television show or movie shifts from 8 p.m. to 9 p.m.
11. *Finally, the DVRs have features that allow the user to make an archival copy to a VHS tape through their analog Video Cassette Recorder (VCR).* This can be achieved by using the record feature of a VCR and the DVR’s “Save to VCR” function together.

## **2. Second Generation DVRs (ReplayTV 4000 series)**

12. The ReplayTV 4000 series represents the second generation of DVRs and was released in November of 2001 by Sonicblue.<sup>10</sup> There are two new DVR features pertinent to this inquiry.

### **a. “AutoSkip” Feature<sup>11</sup>**

13. The ReplayTV 4000 user can set their second generation DVR to “automatically” skip all the commercials in a given show (or in all their shows). With the press of a single button, all commercials will be “stripped” from a television show, and the user can watch that show commercial-free and uninterrupted. When a commercial is about to commence, the ReplayTV4000 automatically goes to the end of the

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<sup>9</sup> Interview with Dr. Ofer M. Nave, President of Nave Consulting, Los Angeles (Nov. 4, 2001).

<sup>10</sup> See <http://www.sonicblue.com> (last visited on Sept. 20, 2002) for more information. As an aside, ironically, Sonicblue is the same company that owns the Rio. Sonicblue acquired Diamond’s Rio and now markets their mp3 player along with the ReplayTV after the 9<sup>th</sup> Circuit held in *RIAA v. Diamond Multimedia Systems, Inc.* 180 F.3d 1072 (1999) (“*Diamond Rio*”) that, following *Sony*, space-shifting of music was allowed. Now, Sonicblue will need to mold *Sony*’s time-shifting theory with the space-shifting theory of *Diamond Rio*.

<sup>11</sup> This feature is not instrumental to the hypothesis presented in this article, but it should still be included, because it may slightly influence the Internet analysis. The fact that the transmitted show can be a smaller file, making for less bandwidth used and a shorter transfer time, implicitly puts the Internet at issue.

commercial segment and continues the exhibition of the show uninterrupted. This saves users time and effort, and avoids the necessity to watch commercials. For example, due to the digital nature of the recording, CBS' *60 Minutes* can be seen in its entirety in forty-five minutes. Further, a thirty-minute sitcom being broadcast between 8:00 p.m. and 8:30 p.m. can be started at 8:08 p.m. and watched uninterrupted through its conclusion, commercial free, on an "almost live" basis.

#### **b. "SendShow" Feature**

14. ReplayTV 4000 users will be able to send and receive shows via the Internet. This is a key DVR feature in the analysis of this article. The "SendShow" feature allows one user to send shows to another user via broadband Internet connections over TCP/IP. According to promotional materials,

"The ReplayTV 4000 is so connected it allows you to share recorded programs with other friends and family that have ReplayTV 4000s. And with its broadband connectivity, sending and receiving programs is a breeze. So, if you forgot to record the last *Friends* episode, just ask your Mom to send it to you!"<sup>12</sup>

15. This feature does not currently contain any security features to ensure that each user has proper access to the show that they receive. If, instead of *Friends*, one user sent *Sex and the City* (or some other pay television show or any PPV show) to a user who does not have licensed access to receive those shows, then the receiving user would be able to enjoy the show without having incurred the cost of properly "licensing" the ability to watch those shows.

### **C. Time-Shifting and the Application of the *Sony* Standard**

#### **1. The *Sony* Standard**

16. The pertinent inquiry here is whether the users of second generation DVRs are directly committing copyright infringement. This inquiry is based on the offline world of copyright and the standard was created before the concept of copyright infringement over the Internet was prevalent. The issue of the legal status of off-the-air video taping in the home for private use was decided in *Sony*.<sup>13</sup> However, the activity of the second-generation DVR users goes beyond the analog "video taping" (time-shifting) that *Sony* held was fair use in many respects.

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<sup>12</sup> The ReplayTV 4000 product features are described at [http://www.sonicblue.com/video/replaytv/replaytv\\_4000\\_features.asp](http://www.sonicblue.com/video/replaytv/replaytv_4000_features.asp) (last visited on Nov. 11, 2002).

<sup>13</sup> NIMMER ON COPYRIGHT, § 13.05[F][5][b][i].

## 2. First Generation DVRs

17. The copyright holders do not challenge the use of “ordinary [first generation] DVRs” for copying of over the air broadcast television programming.<sup>14</sup> This implies that digital recording (rather than video taping) is either allowable under *Sony* or is not worth being challenged by the copyright holders. Also, television shows are usually deleted from the digital hard drive that they reside on, after having been watched. It would take an affirmative act to use the “Save to VCR” function to convert the recording to an archival format (VHS tape), whereas in the Betamax,<sup>15</sup> the content was already in an archival format. This issue cuts towards the first generation DVR users activity being fair use.

## 3. Second Generation DVRs

### a. “AutoSkip” Feature

18. The *Sony* court focused on the fourth fair use factor<sup>16</sup> and concluded that the plaintiffs “failed to demonstrate that time-shifting would cause any likelihood of nonminimal harm to the potential market for, or the value of, their copyrighted works.”<sup>17</sup> The “AutoSkip” feature though, would likely harm the value of the copyrighted works.<sup>18</sup>

19. The “AutoSkip” feature would weaken the value of the copyright on any show with commercials in it. Presumably, the copyright holders are gaining revenue, either directly or indirectly (through a network affiliate), from the commercials being played during the airing of their audiovisual work. The “Auto Skip” feature makes it simple to skip past commercials. Part of the Supreme Court’s holding in *Sony* was based on the District Court’s factual finding that viewers would generally not fast-forward through commercials because it would be too “tedious.”<sup>19</sup>

20. This issue may be of concern only in theory if the second generation DVR is analyzed under the staple article of commerce doctrine, rather than as an individual feature with (or without) “substantial non-infringing uses.”<sup>20</sup> Also, note that this feature’s circumvention of commercials may lead to liability under Section 1201 of the Digital Millennium Copyright Act (DMCA)<sup>21</sup> based on its anti-circumvention provisions.<sup>22</sup>

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<sup>14</sup> Complaint filed against ReplayTV, filed in the Central District of CA on Oct. 31, 2001.

<sup>15</sup> Betamax refers to first generation analog video cassette recorders (VCRs), also called video tape recorders (VTRs). *See Sony*, at 417.

<sup>16</sup> NIMMER ON COPYRIGHT, § 13.05[F][5][b][i].

<sup>17</sup> *Sony*, at 456.

<sup>18</sup> This will be of much greater importance for peer-to-peer file sharing. *See infra* Part III.

<sup>19</sup> *See infra* Part III on ease of use and effect on the market in the Morpheus context.

<sup>20</sup> *See infra* Part II.D.

<sup>21</sup> Digital Millennium Copyright Act, 17 U.S.C. § 1201 (1998).

<sup>22</sup> For further discussion of this, *see* NIMMER ON COPYRIGHT, § 12A.19[B].

## b. “SendShow” Feature

21. The “SendShow” feature will likely be found to facilitate copyright infringement and lead to manufacturer liability. Unlike the “AutoSkip” feature, the “SendShow” feature entails making more actual copies, not just altering the way someone views one copy (*e.g.*, time-shifting). This would seem to directly infringe upon the Section 106<sup>23</sup> right of duplication. Besides the actual duplication, access to certain copyrighted material could go against general copyright law, as well as the DMCA.<sup>24</sup>
22. This feature can be most problematic in the realm of Pay-Per-View (PPV) and Pay Television. Here, the shows are not sent over the air and access to them is restricted to those receivers who pay PPV charges and television subscription fees, usually the sole source of revenue. A user of the “SendShow” feature can easily send a PPV (or pay television) show to someone who has not paid for that viewing as easily as sending something that was broadcast over the air to everyone.<sup>25</sup>
23. This would significantly reduce the value of the copyrighted works for television shows (and movies) that use the PPV or the pay television business model. Users would be less inclined to subscribe or pay for these copyrighted works when they can access them for free through someone else. If this were taken to its logical conclusion, only one person would need to pay for these copyrighted works and that person could then “share” those works with other people using the “SendShow” feature.

## 4. Separability

24. It would seem that the “AutoSkip” and “SendShow” features could be viewed separately or together, depending on the analysis of the staple article of commerce doctrine as applied here.<sup>26</sup>
25. This question becomes crucial in determining liability because, under *Sony*, it would seem that the first generation DVR features would be non-infringing uses. These non-infringing uses are commercially significant, evidenced by the fact that first generation DVRs are successful on the market and are estimated to already be in over 500,000 homes. If taken as a whole, manufacturers of second generation DVRs will be exempt from liability under the staple article of commerce doctrine since the “pause live television” function, “jumping to a moment in time” function, “season pass” function, and general digital nature of

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<sup>23</sup> 17 U.S.C. § 106

<sup>24</sup> *Id.*

<sup>25</sup> This is partly analogous to music that you can listen to over the air via the radio, yet in order to listen to it at your own convenience (and without the “tedious” commercials), you need to get a “license” by purchasing a copy of the music. Via the first sale doctrine, this allows you to do whatever you want with it so long as you don’t infringe upon a Section 106 right.

<sup>26</sup> See *infra*, Part III.C. for further discussion.

the DVR would be more than *de minimus* and would rise to the level of giving the second generation DVR a “commercially significant non-infringing use.”<sup>27</sup> If separability were adopted, a court would scrutinize each feature individually.<sup>28</sup>

#### D. Conclusions on DVR Technology<sup>29</sup>

26. As with the Betamax, current technology has overcome copyright law (including the staple article of commerce doctrine). During these times of technological innovation, where the technologies extend beyond Congress’s original intention of what copyright law can protect, courts will need to look past the letter of the law and focus on fairness. Under the current statutory law, manufacturers of second generation DVRs should be exempt from liability under the staple article of commerce doctrine since DVRs have commercially significant non-infringing uses.
27. Courts, however, have deviated from that reasoning in *Sony*. For example, the *Napster* court failed to apply *Sony*’s staple article of commerce doctrine to the Napster system.<sup>30</sup> In *Compaq Computer Corp v. Procom Tech., Inc.* (“*Procom*”), the court also deviated slightly from *Sony*’s analysis in order to be equitable.<sup>31</sup> Some scholars have advocated drastic change in the copyright law for contributory infringement, especially after the passage of the DMCA.<sup>32</sup>
28. One possible remedy to this conflict between technology and the rights of copyright holders is to use an authorization system on the second generation DVRs. Arguably, the “AutoSkip” feature is allowable under *Sony*. Since courts usually do not intend to shut down a whole technology that will help the public, they may push for the technology to work within the legal limits. The “SendShow” feature will have to be adapted to check for authorized access to shows by seeing if a recipient is authorized to receive a show. This can be achieved relatively easily by giving each second generation DVR user a profile listing the content to which they have authorized access. This would be similar to the “cookie technology” currently used on the World Wide Web.<sup>33</sup>

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<sup>27</sup> See *supra*, Part II.C.1.

<sup>28</sup> See *Id.*, for analysis of individual features under Copyright Law.

<sup>29</sup> See e.g., JAMES LARDNER, *THE JAPANESE, AND THE ONSLAUGHT OF THE VCR* (WW Norton & Company 1987).

<sup>30</sup> *A & M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 917 (N.D. Cal. 2000) [hereinafter *A & M Records*]; see also generally, Shawn Chapman, *Pushing the Limits of Copyright Law and Upping the Ante in the Digital World: The strange case of A & M Records, Inc. v. Napster, Inc.*, 89 Ky. L.J. 793 (2000).

<sup>31</sup> *Compaq Computer Corp. v. Procom Tech., Inc.*, 908 F. Supp. 1409, 1428 (S.D. Texas 1995).

<sup>32</sup> Sarah H. McWane, *Hollywood vs. Silicon Valley: DeCSS Down, Napster to Go?*, 9 *CommLaw Conspectus* 87, at 107-09 (2001).

<sup>33</sup> This might cause privacy concerns. With all new technology, privacy concerns become greater. For a general primer on privacy in Cyberspace as it applies to encryption, see Orin S. Kerr, *The Fourth Amendment in Cyberspace: Can Encryption Create a “Reasonable Expectation of Privacy?”*, 33 *Conn. L. Rev.* 503 (2001).



### III. Case Study 2: Post Napster File Sharing Utilities

#### A. Introduction to Peer-To-Peer File Sharing Technology

29. Peer-to-peer file sharing technology is software used as a communication tool between Internet users that enables them to connect together to form a network. The Napster file sharing technology did this by creating a central server that indexed all the files that its users were willing to share. Napster only indexed music files in the MPEG-1, Audio Layer-3 format,<sup>34</sup> yet it had the capability to index other types of files, as well. Besides the “file sharing” aspect of the Napster technology, it also had a “buddy list” feature and a “chat” feature that allowed users to form small communities and discuss any issue (not just limited to music) with those other users. Most Napster system use involved the file sharing of copyrighted music.<sup>35</sup>
30. The Napster software created indexes and resources for the users of its files. It allowed users to communicate with each other via the Napster system. After downloading the Napster software, a user could log onto Napster and make their hard drive available for sharing. Napster then took the information and indexed the files and IP addresses that each user had. The file names then appeared on a directory searchable by anyone simultaneously using the Napster system. If a user found a file they wanted to receive,<sup>36</sup> they requested Napster to set up a connection (through the Napster software) between the user who had the file and the user who wanted the file directly.<sup>37</sup> Napster “provides both a product – its file sharing software – and a service – a centralized website [server] that connects users and provides information about music files available on its network.”<sup>38</sup>

#### B. The Post-Napster File Sharing Technology

31. Morpheus is a software program similar to Napster, with a few key differences. Most notably, particularly for the current analysis, is the fact that Morpheus does not have a central server that maintains listings and directories of the files it users share. Also, the user-created network can include users of Morpheus software, as

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<sup>34</sup> Commonly referred to as MP3 format, it is a condensed digital format for storing audio recordings that makes it easy to transport them over communications networks, and computer users can convert ordinary audio CDs into MP3 format through a compression process known as “ripping” after which they can make their files available to users on the Napster service (or any other service). For further discussion of “ripping” MP3 files, *see generally*, *A & M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1011 (9<sup>th</sup> Cir. 2001) [hereinafter *Napster*].

<sup>35</sup> *See Napster*, at 1014.

<sup>36</sup> In *Napster*, only music files in the MP3 format were searchable and downloadable, whereas in the Morpheus situation, any type of media file was searchable and downloadable. *See supra*, Part III.B.

<sup>37</sup> The files do not pass through Napster’s servers in the course of traveling from one user to another. It is this feature – the trading of files directly from user to user – that gives Napster its “peer-to-peer” moniker. *See A & M Records*, 114 F.Supp.2d at 902.

<sup>38</sup> Stacey L. Dogan, *Perspectives on Intellectual Property: Is Napster a VCR? The Implications of Sony for Napster and Other Internet Technologies*, 52 *Hastings L.J.* 939, 947 (2001).

well as users of KaZaA and Grokster software.

32. Morpheus uses “supernodes” rather than central servers. These “supernodes” are client machines that have high bandwidth and they are used similarly to the central server of Napster. There are a plethora of “supernodes,” none of which are run by Morpheus, yet the Morpheus software assigns computers as “supernodes.”<sup>39</sup> In the original software that can be downloaded, there are “hardwired” lists of “supernodes” available, and after the first connection, a new updated list of “supernodes” is imported to the Morpheus software. The operators of the “supernodes” are usually unaware that they are running “supernodes,” so they may not have the requisite knowledge to be held liable for the infringement done by users connected to their system.<sup>40</sup>
33. The fact that this is a system open to use by many different software applications shows the non-exclusive nature of the Morpheus architecture. Grokster, KaZaA, as well as Morpheus, all use the same system, and their users are interconnected with an ability to “share” files with each other.

### C. The Standard Set in *Napster* and *Sony*

#### 1. Staple Article of Commerce Doctrine and Space-Shifting

34. In deciding the *Napster* case, the 9<sup>th</sup> Circuit went around *Sony* and said in dicta that the district court (which held Napster liable) misconstrued the meaning of “substantial non-infringing use” by focusing narrowly on current uses of the Napster system and not on possible future uses.<sup>41</sup> Despite this holding, the 9<sup>th</sup> Circuit still found *Sony* inapplicable because the U.S. Supreme Court invoked the staple article of commerce doctrine to avoid imputing knowledge of infringement to a manufacturer.<sup>42</sup> The 9<sup>th</sup> Circuit found *Sony* inapplicable to Napster because Napster had the ability to control its own system, but it had refused to exercise such control after receiving actual knowledge of infringement on its service.<sup>43</sup>
35. The central question to this inquiry is whether the changes in the architecture of Morpheus – doing away with the central server – takes the manufacturer away from the sphere of knowledge of the infringing activity. If knowledge were still assigned to Morpheus constructively by the courts (by finding *Sony* inapplicable),

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<sup>39</sup> Slyck Guide to FastTrack, at <http://www.slyck.com/fasttrackhistory.html> (last visited November 25, 2002).

<sup>40</sup> Since this “supernode” technology was first developed for the Morpheus network, there is seemingly no directly applicable precedent regarding the knowledge of an operator of a “supernode,” so the author leaves unresolved the question of whether the unknowing operation of a “supernode” gives rise to the requisite level of knowledge to be held liable for infringement by users connected to said “supernode.”

<sup>41</sup> *Napster*, 239 F.3d at 1021.

<sup>42</sup> *Id.*, at 1021-22.

<sup>43</sup> *Id.*, at 1021-1022. “The record supports the district court’s findings that Napster has actual knowledge that specific infringing material is available on its system, that it could block access to the system by suppliers of the infringing material, and that it failed to remove the material.”

it should be held liable for contributory copyright infringement. Liability is attached to Morpheus because it put a product out on the market that it “knew” would be used for illicit acts, and it purposely tried to turn a proverbial blind eye to the infringement.<sup>44</sup> However, because it may not be possible to stop the network now that it is already in the hands of the public, a policy change may not make sense.<sup>45</sup>

36. The Morpheus file sharing case study is analogous in a way to the “SendShow” feature of the Second Generation DVRs. The “file sharing” of the DVRs seems to mirror the file sharing portion of the Napster technology, which was held (by the 9<sup>th</sup> Circuit in 2001) to be a contributory infringement by the manufacturer and not a fair use by its users.<sup>46</sup> In the discussion of Morpheus and in *Napster*, there is one authorized copy, which is then “shared” with another user who possibly did not have authorized access to a copy of that copyrighted work. The 9<sup>th</sup> Circuit differentiated *Napster* from *Diamond Rio* by saying that space-shifting is a fair use when it terminates with one user or licensee, whereas in *Napster*, the technology allowed a user to share the content with other users (over the Internet). Second generation DVRs are much more akin to the Napster technology than the Diamond Rio technology because they also allow a user to “share” content with another user over the Internet.

## 2. Separability

37. *Sony* treated the Betamax as a whole in looking to see if there were substantial non-infringing uses to which the Betamax could be put. The court could have solely analyzed the “record” function and decided whether there was a substantial non-infringing use to it, but instead it implicitly looked at the Betamax as a whole.
38. Because *Sony* was not explicit on this issue, “the question arises to what aspect of the product at issue [the] standard should be applied. For instance, does it apply to the VTR as a whole?”<sup>47</sup> This question was interpreted by one federal court in *Procom* and it suggested that there should be separability in the features.<sup>48</sup> In that case, the court found that, although the “hot pluggable drive” (a removable computer hard drive) may have commercially significant non-infringing uses when taken as a whole, the vendor ID function was separable from the product as a whole. This indicates that Morpheus can be viewed solely in its file sharing capacity and that one part of the Morpheus software can be deemed infringing and not “capable of substantial non-infringing uses” since the non-infringing uses are just *de minimus*.

39. Most likely, a court will look towards the file sharing aspect of the Morpheus

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<sup>44</sup> See RIAA Internal memo describing the encryption process as well as the server and “supernode” structure. See <http://www.dotcomscoop.com/article.php?sid=39> (Last visited May 3, 2002).

<sup>45</sup> See *infra*, Part II.E.

<sup>46</sup> See *Napster*, at 1014-19.

<sup>47</sup> NIMMER ON COPYRIGHT, § 12.04 [A][2][b].

<sup>48</sup> 908 F. Supp 1409, 1424 (SD Tex. 1995).

software as separable under *Procom*. There probably will not be a substantial non-infringing use to that feature of the software, despite the prevalence of some non-infringing uses to the Morpheus software as a whole.

### 3. Contributory Infringement

40. In order for a manufacturer to be liable for contributory copyright infringement there must be a knowing contribution to the infringing conduct.<sup>49</sup> This is where Morpheus may substantially differ from Napster.
41. Because of Morpheus' architecture and the lack of a central server, Morpheus may not be deemed to have knowledge of the alleged infringing activity of its users. If Morpheus is deemed to have no knowledge of the infringing acts of its users, then it will not be held liable for contributory copyright infringement.<sup>50</sup> Solely breaking the link between the users and a central server, however, should not be enough to insulate Morpheus from being imputed constructive knowledge and therefore held liable. This would seem to be an out for any future technology company to create a code-based way of insulating themselves for the liability of copyright infringement of others. The counter argument remains that because the *Napster* court followed *Sony* and did not "impute the requisite level of knowledge to Napster merely because peer-to-peer file sharing technology may be used to infringe plaintiff's copyrights."<sup>51</sup>
42. Morpheus may also be able to escape liability under a few other theories. For example, under the staple article of commerce doctrine, courts may look towards future uses of the technology.<sup>52</sup> The *Napster* saga taught us that using filters would not effectively work on a software system, making it more difficult to stop or curtail the infringement. Although it seems likely that future use will include types of infringing uses, there is a possibility that there may be substantial non-infringing uses. The court will need to determine this in order to determine whether the manufacturer should be liable. However, under *Napster*, which is essentially identical in terms of this inquiry, the software manufacturer of peer-to-peer file sharing software that allows infringement on a wholesale level will be liable if knowledge can be imparted upon it.

### D. Practicality Issues

43. Morpheus is an international phenomenon that goes beyond the domestic barrier, much more so than the California-based Napster. As a result of its international character, domestic operators of the Morpheus network could not kill the network.

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<sup>49</sup> *Sony*, at 439.

<sup>50</sup> Assuming that the alleged acts of infringement can be proven since there cannot be any contributory liability for copyright infringement unless one can first prove direct copyright infringement for which the defendant would become liable. See *Fonovisa Inc. v. Cherry Auction, Inc.* 76 F.3d 259 (9<sup>th</sup> Cir. 1996).

<sup>51</sup> *Napster*, 239 F.3d at 1020-1021.

<sup>52</sup> See *infra*, Section III.C.

This leads to practical problems of international regulation. Even if the US courts decided that Morpheus is liable for the infringement of its users, similar to Napster, the network will likely still live and thrive internationally.

44. Technically, Morpheus network is based in the Netherlands, but because of the “supernode” technology, there is no central server or any base of operations for the Morpheus network as a practical matter. Also, the Freenet and Gnutella networks have been integrated into the Morpheus network.<sup>53</sup> This leads to problems that the courts cannot fix with traditional regulation. The only seemingly possible efficacious regulation would be through code-based measures.<sup>54</sup> These should be coupled with other, more traditional regulatory models.<sup>55</sup>

### E. Conclusions on File Sharing Technology

45. The added layer of anonymity that the “supernode” technology adds should not insulate Morpheus from liability. This being said, it may be beyond the court’s control to keep this system from being commensurate with free piracy of intellectual property. The creation of the system of “supernodes” may be beyond the control of even its creator. This evidence may actually exonerate Morpheus from liability, although using the defense that it is too late would be a bad policy decision.<sup>56</sup>
46. Morpheus should be imputed knowledge of the actions of its users. Although they may not have actual knowledge or even constructive knowledge of any of the actual files that are being “shared” or copied, they do have at least constructive knowledge of the type of activity that is going on by their users. Also, similar to *Napster*, the *Sony* decision does not exonerate them because of their continued relationship with the consumer that is using their product to infringe.<sup>57</sup>

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<sup>53</sup> See <http://www.gnutelliums.com> for a “comprehensive directory of Gnutella clients” which includes Morpheus (last visited Nov. 11, 2002).

<sup>54</sup> Some examples of this would be the Digital Rights Management (DRM) and watermarking or tethering the music files so as to not let them be freely transferable over the Internet. For more on code based architectural reform, see LESSIG, CODE.

<sup>55</sup> See *infra*, Part IV.

<sup>56</sup> Granting a safe harbor to those infringing activities which are outside of the hands of the manufacturer would provide an incentive for both hardware and software manufacturers to get their products to the market fast and furious so as to reach the critical mass that is necessary to raise this defense. This would yield a “cyberanarchy” in the world of intellectual property because infringing products would be defensible based on having too much already out there. This circular logic would lead to the demise of intellectual property online.

<sup>57</sup> *Sony* was applicable to a product that was sent out into the market with no future contact between the manufacturer and the consumer. In both *Napster* and the Morpheus example, there is further contact and communication between the consumer (direct infringer) and the manufacturer (software maker). The architecture of Morpheus, though, does make a better case for less involvement with the user, but, as stated *infra*, allowing for a software company to escape its legal obligations for these reasons makes bad policy sense.

47. Imputing knowledge to Morpheus of its users' direct copyright infringements should yield the same result as *Napster*. Morpheus should be shut down under the auspices of U.S. law. However, this may practically be impossible due to the fact that Morpheus is based out of the Netherlands and is not amenable to U.S. jurisdiction. All domestic operators should be held liable and shut down, and international treaties should be invoked in order to try to shut down international operators. Also, criminal liability should attach to users so as to deter them from using the software. Although enforcement will prove very difficult, intellectual property should be protected.

#### IV. Regulation Issues

##### A. Review of the Current Law as Seen in Case Studies

48. According to the court in *Sony*, “[c]opyright law will need to reform to maintain the delicate balance between a copyright holder’s legitimate demand for effective...protection ...and the rights of others freely to engage in substantially unrelated areas of commerce.”<sup>58</sup> As shown in the case studies, the current copyright law will not effectively “promote the arts and sciences” because of the ability to avoid liability due to outdated legal doctrines.<sup>59</sup>

##### B. Differences in Regulatory Model Shown by Case Studies

49. The two case studies presented in this article show a stark contrast in efficacy of regulation issues. The first analysis, which focuses on DVRs, can be effectively regulated by the current regulatory scheme in the U.S. However, the second case study of Morpheus cannot be as effectively regulated. This is due in part to the fact that the first case study deals with the use of hardware to contributorily infringe on copyright protection, whereas the second case study merely utilizes software. Since software can cross national boundaries much more easily than hardware can, the U.S. would be less effective at controlling its import.

50. The DVR technology can be controlled by courts holding the manufacturer liable, which creates a precedent to prohibit this type of consumer product. Further, the U.S. can stop the importation of this product at its borders.

51. The Morpheus technology cannot be as easily shut down. Even if U.S. courts sent Morpheus (as well as its counterparts) out of business, the network architecture already exists. Without the proper marketing of the software, there may be a reduction in some of the international user activity, but wholesale copyright infringement can continue to exist because the network is still in place. The only possible solution to this would be a type of code-based regulation or by employing a deterrence theory for direct infringers.

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<sup>58</sup> *Sony*, 464 U.S. at 442.

<sup>59</sup> See generally, *supra* Parts II and III.

52. What should be done to curtail these differences? Professor Lessig points to code-based regulation. Others point to less strict contributory infringement doctrines. The industry actually needs a combination of both regimes and a shift in norms. Yet, there is imminent danger in trying to attack this medium head on using only one of these. As the use of the Internet proliferates and envelops more parts of our lives, these considerations are of greater importance and they should be viewed skeptically.

## C. The Future of Regulation of Intellectual Property Online

### 1. The Big Picture

53. Where do we go from here? The issues brought up in this article cannot be viewed in a vacuum; both the norms of the Internet, as well as its inherent architecture, must be analyzed in order to find a workable solution.
54. The norms of the Internet are not easily established, yet they are crucial because they will ultimately yield a certain behavior by Internet users. Some commentators believe there should be more emphasis on determining the best method for regulating, as hard as this may be, the Internet.<sup>60</sup> Others believe that there should be private ordering to regulate behavior over the Internet,<sup>61</sup> while some commentators suggest that there should be public ordering for efficient uses of the Internet.<sup>62</sup>
55. The inherent nature (and underlying architecture) of the Internet is based on the copying of files from different computers on the network.<sup>63</sup> This inherent architecture of the Internet coupled with its supranational character yields different regulatory possibilities from traditional information or entertainment media. The Internet's structure has made it separate and, possibly, above the laws of most nations and some commentators suggest that the architecture (or code) of the Internet may displace law.<sup>64</sup> According to Lessig, the Internet is an "example

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<sup>60</sup> See, e.g., David G. Post & David R. Johnson, *Chaos Prevailing on Every Continent: Towards a New Theory of Decentralized Decision-Making in Complex Systems*, 73 Chi.-Kent L. Rev. 1055 (1998). Margaret Jane Radin & R. Polk Wagner, *The Myth of Private Ordering: Rediscovering Legal Realism in Cyberspace*, 73 Chi.-Kent L. Rev. 1295, 1310-17 (1998).

<sup>61</sup> See Jack L. Goldsmith, *Against CyberAnarchy*, 65 U. Chi. L. Rev. 1199 (1998).

<sup>62</sup> Mark A. Lemley, *The Law and Economics of Internet Norms*, 73 Chi.-Kent. L. Rev 1257 (1998).

<sup>63</sup> The Internet is constructed of many computers on a universal network that send files between each other to get them from one destination to another on the Internet. For example, if the author wanted to view a web page using a browser, his browser would request that information from his Internet Service Provider, which would then go to a route server to locate that information. Once found, the information will be sent through a number of computers and copied each time in order to eventually be reconstructed on the author's computer. One request for a web page or any file goes through the TCP/IP (Transport Control Protocol / Internet Protocol), which in itself will create a copy on the end user's computer, and also many transitory copies on its way there. Marshall Brain, *How Web Servers Work*, at <http://www.howstuffworks.com/web-server.htm> (last visited May 4, 2002).

<sup>64</sup> Lawrence Lessig, *The Law of the Horse: What Cyberlaw Might Teach*, 113 Harv. L. Rev. 501 (1999) at 522.

of the code changing the effectiveness of a law...[and] examples of how indirect effects of the code might alter the regulation or policy of the law.”<sup>65</sup>

56. However, these issues go beyond the scope of this article. The incompleteness in this area stems from the fact that there are no correct positive answers, only normative judgments in these fields. Intelligent minds can differ, especially on topics as sensitive and as global in scope as how to regulate the Internet.

## 2. The Smaller Picture

57. How does one ensure that Intellectual Property will be sufficiently protected in order to provide artists incentive to create new works? The U.S. Constitution gives the U.S. Congress the right to grant monopolies for limited times in order “to promote the progress of science and useful arts.”<sup>66</sup> This grant of a monopoly right under the U.S. Constitution is the source for copyright. However, the current copyright law faces two main issues in trying to address the future of intellectual property online.

58. First, the copyright laws, as they currently stand, may not adequately protect the interests of copyright holders in the online world. Second, the U.S. Constitution and U.S. Copyright laws only protect copyrights domestically, and they are not adequate remedies for any alleged international copyright infringement. Although the U.S. has signed onto international obligations through the WTO, which has established minimum standards and national treatment for its member nations,<sup>67</sup> many nations are not members of the WTO. Those nations that are not members of the WTO are still connected to the Internet and can host and serve applications contrary to any traditional notions of fairness in copyright. Due to the paradigm of sovereignty that international law follows, these nations cannot be forced to update their copyright laws or add protection when there is none. This can become especially problematic in the software field because the architecture of the Internet allows for national borders to be easily crossed. For hardware this is not as problematic because there actually has to be a physical piece of property imported over national borders.<sup>68</sup> The international component for regulation of intellectual property is still largely in flux and any further explanation would go beyond the scope of this article.<sup>69</sup>

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<sup>65</sup> *Id.*

<sup>66</sup> U.S. CONST. art. I, § 8, cl. 8.

<sup>67</sup> Joost Pauwelyn, *The WTO: How Far Can We Go?*, 95 Am. J. Int'l L. 535 (2001).

<sup>68</sup> The only quasi-physical property that must be imported with software is the actual computer bytes sent through TCP/IP that comprise the software. This can be done through technical means and can be done in a matter of milliseconds. The transnational character of Internet commerce and general software distribution can be done without any explicit recognition of national borders except for the possibility of using certain IP addresses that are known to flow into certain countries. See generally ICANN's website available at <http://www.icann.org>.

<sup>69</sup> For more on the state of international protection of intellectual property, see Jason H. Fisher, *The Future of International Copyright after the WTO's 110(5) Decision: Analysis, Discussion and Predictions* (unpublished manuscript, on file with author).



## V. Conclusions

59. At the start of the 21<sup>st</sup> century, the Internet is a substantial part of the lives of most people. It seems difficult to imagine a week going by without checking e-mail or using some form of the Internet. Technological innovation continues to move at a fast rate and the law struggles to keep up with this rapid advancement.
60. Technology is changing faster than the law. It is the legal system's responsibility to balance the societal benefits of technological innovation with the benefits of having enforceable copyright laws. The decision by the U.S. Supreme Court in *Sony* is exemplary of a legal doctrine, which tries to keep up with and adjust to new technology, while preserving other property rights. Due to *stare decisis*, this holding is certainly applicable to current technology.
61. By examining the DVR technology and file sharing technology, this article has demonstrated the current problem of applying traditional intellectual property doctrine to new technology on the Internet. These technological breakthroughs will continue and they are encouraged. However, society and the courts must keep pace with the technology. They must recognize its impact on the intellectual property rights of individuals and protect those rights. This responsibility has never been easy, and now with the current advancement of new media, it becomes increasingly difficult.