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THE COMPUTER PIRACY SUPERHIGHWAY

TANYA POTH*

I. INTRODUCTION

A. Summary

With the current technology available through Internet services and the ability to exchange and update computer software in an instant, corporations that deal in the production and marketing of computer software are becoming increasingly concerned with the amount of software and copyright loss of profits occurring through product piracy.¹ Additionally, corporations are becoming more aware of possible sanctioning if caught in the act of using pirated software. Internationally, governments are being educated on the detrimental effects this piracy has on their economy. Yet, little policing power and economic recovery is currently available. Although a number of private and governmental agencies are beginning to surface with the mission of creating better protection, the international intellectual property arena must develop a more effective stance in the coming years.

Section one of this article delineates the basic concerns of international piracy through a discussion of general statistics regarding lost profits and gives tangible examples of litigation surrounding corporations caught using illegal software. Section two sets a historical perspective of the computer software industry and examines the important international treaties currently in force to help curb the situation. Section three discusses the difficulties in attempting to lower current piracy rates. Section four considers the types of international protections currently being tested or proposed for the future. Finally, section five concludes with what should occur in the next decade to ensure that the problem of computer software piracy dramatically

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1. Piracy is defined by one author as the “unauthorized copying, reproduction, use or manufacture of software.” *Microsoft to Donate \$25 Million from Software Piracy Recoveries; Donations Help Increase Access to Technology for Disadvantaged Communities Worldwide*, PR Newswire Ass’n, Inc., May 20, 1999, available in LEXIS, Academic Universe Database.

declines. The time is ripe for an international convention specifically addressing the following issues: (1) solidifying choice of law questions; (2) establishing what bodies will be responsible for hearing cases; and (3) creating enforcement strategies to hold countries accountable.

B. General Statistics

What do the Los Angeles Police Federal Credit Union,² an enormous number of small retailers in the Philippines,³ and Glorious Sun Enterprises Ltd.,⁴ a local garment manufacturer in Hong Kong, have in common? They have all recently settled suits brought against them by private international organizations⁵ whose goals are to seek out users of illegally copied computer software.

Computer software theft has become a criminal act of worldly proportions with the technological boom of Internet use and the breakdown of digital boundaries that cannot be tangibly seen or determined. Current statistics on lost revenue worldwide from computer software piracy place the loss to industry at an estimated \$11 billion⁶ (US) for 1998.⁷ Domestically, 25% of United States business software packages were pirated last year, "while 38% was stolen

2. The Los Angeles Police Federal Credit Union, along with a number of private and public corporations, was caught using unlicensed computer software by the Business Software Alliance. These cases showed the wide array of businesses and public entities that are involved in computer software piracy. In this instance, the Credit Union was subjected to fines in order to settle the potential suit. See Eric Young, *U.S. Officials Vow to Crack Down on Software Piracy*, THE SACRAMENTO BEE, July 24, 1999, at B4.

3. In another investigation by the Business Software Alliance, most of the companies who were caught using pirated software were small retailers and businesses. Although 100 cases of piracy are currently being heard in the local courts, the 40 final court decisions thus far have yet to render a court judgment for Business Software Alliance. The real effort is to begin targeting the large abusers of piracy, but as of yet, the major corporate sector has been difficult to apprehend in the Philippines. See Joel D. Pinaroc, *Locating Source a Major Problem for Anti-Piracy Campaign*, METROPOLITAN COMPUTER TIMES, June 18, 1999.

4. Glorious Sun Enterprises, a local business, was caught pirating software through one of the piracy hotlines implemented by the Business Software Alliance of Hong Kong. The \$129,000 (US) settlement represents one of the largest settlements to date. The company was also required to destroy any pirated software at their facilities. See Martyn Williams, *BSA Hong Kong Settles Major Software Piracy Case*, NEWSBYTES, Sept. 19, 1999, available in LEXIS, Academic Universe Database.

5. The private international organizations in these examples are discussed in more depth in Section IV: International Copyright Protections – Today and in the Future. See Subsection C, *infra*.

6. All currency discussed in this article is United States currency.

7. See Adam Creed, *Business Software Piracy Globally Costs \$11 bn Says BSA*, NEWSBYTES NEWS NETWORK, May 26, 1999, available in LEXIS, Academic Universe Database.

worldwide."⁸

Although piracy shows no discrimination as to who is capable of loss in terms of socio-economic standards, political stance, or organizational affiliation, major contributing nations to the world market are showing the highest percentages of pirated software.⁹ Although the United States is generally hardest hit (with losses averaging \$3.2 billion during 1998),¹⁰ the international arena hosts significant losses in countries all over the world. "After the US, the countries contributing the highest dollar losses due to software piracy in 1998 were China, Japan, Germany, the UK, France, Brazil, Italy, Canada, and Russia."¹¹ Additionally, "[t]he losses from these ten countries (including the US) made up 67% of worldwide losses, or \$7.3 billion."¹² The most pirated computer software products worldwide not surprisingly belong to the world's largest maker of computer software, Microsoft Corp.¹³ The corporation's two most prominent products, Office 97 and Windows 98, continually prove to be the most illegally copied Internet entities.¹⁴

A comparison may also be drawn regarding the amount of pirated products currently available on the market of several countries. Although certain countries may not feel as much of the lost revenue as the prominent ten countries previously mentioned, the amount of pirated software available in these countries is staggering. According to a survey done by a number of software industry trade associations, 97% of Vietnam's current software in their corporate and private market is pirated, as is 95% of China's software.¹⁵ Ninety-two percent of both Indonesia and Russia's national software has been obtained by illegal means.¹⁶ Thus, most agree that computer copyright piracy occurrences have reached astronomical rates.

8. Kenneth Li, *Software Piracy Costs the World \$11 Billion in Lost Sales*, N.Y. DAILY NEWS, June 8, 1999.

9. Asian countries, including Vietnam, China, and Indonesia top the list of percentages for pirated software. *Id.* But countries that are not technologically developed are also showing astronomical percentages of piracy. See Mary Mosquera, *Piracy Stunts Latin American Software Growth*, TECHWEB NEWS, Oct. 6, 1999.

10. Creed, *supra* note 7.

11. *Id.*

12. *Id.*

13. See *E-Com Security Alliance Formed*, USA TODAY TECH REPORT, Oct. 11, 1999, (visited Oct. 25, 1999) <<http://www.usatoday.com/life/cyber/tech/ctg392.htm>>.

14. Li, *supra* note 8.

15. Creed, *supra* note 7.

16. *Id.*

II. HISTORY AND BACKGROUND OF ISSUE

A. *History of the Internet and Computer Functioning*

Originally, the Internet was created as a free flow of knowledge where all users could have a shared and instantaneous connection with which to educate, inform, and gather information from all around the world.¹⁷ This concept is in direct conflict with the premise behind copyright restrictions, namely where laws are in place to protect the creators and distributors of a work product from having to share anything more than that which they are consciously giving their approval of disseminating.¹⁸

To understand the act of computer piracy, one must have a basic understanding of the ease with which piracy can occur. One can generally separate computer parts into two categories: hardware and software.¹⁹ Hardware is often referred to as any piece of the computer that is tangible to its functioning, such as the monitor, keyboard, disks, etc.²⁰ Software includes the less tangible parts of computer functioning, such as programs, databases, operational systems that run programs, etc.²¹ Computer piracy occurs where software is manipulated in a way that does not recognize copyright protections which may be in place.

A computer basically consists of its central processor, the memory, and all input/output mechanisms.²² Computers process information when a user tells the computer where electronic impulses comprising information is stored and how to retrieve it.²³ The electronic impulses are recognizable to the computer and recorded into the computer's memory to be altered, copied, manipulated, and eventually to be changed back into recognizable form for the user, or person seeking data.²⁴

The Central Processing Unit (CPU) is the brains of computer functioning since programs run from this location.²⁵ Because the CPU functions at a speed of millionths of a second, it spends much of its time idling, which allows many different users access to a CPU at once.²⁶

17. Barbara Cohen, *A Proposed Regime for Copyright Protection on the Internet*, 22 *Brook. J. Int'l L.* 401, 405 (1996).

18. *See Id.*

19. MICHAEL C. GEMIGNANI, *COMPUTER LAW* 16 (1985).

20. *See Id.*

21. *See Id.*

22. *See Id.*

23. *See* STEPHEN FISHMAN, *SOFTWARE DEVELOPMENT* 12/2 (2nd ed. 1998).

24. GEMIGNANI, *supra* note 19, at 17.

25. *See Id.* at 20.

26. *See Id.* 32-bit CPU's are becoming a common memory system, thus increasing

Any users who are sharing a CPU may feel that they are functioning alone on a system, since mainframes can handle such large numbers of users at once without disrupting the activity of one user for the sake of another.

The actual act of computerizing data is done from incredibly small electronic signals, called bits, which are the smallest units for computer memory.²⁷ Databases are the compilation of a series of bits that the user manipulates to alter, add, and copy data.²⁸ This database is the software grouping that is manipulated to allow exchange of information on a server or through a general CPU. Databases are also where computers can create electronic protections for unauthorized copying of programs, files, data systems, etc.²⁹

Computer software theft problems arise when personal computer users who are attached to large CPU systems utilize their mainframe server access to download, copy, and send programs to users outside the authorized scope of the program's use.³⁰ This can also happen when a user outside of the CPU authorization zone finds a "trap door" to gain access to the CPU data information systems and then downloads that information for his or her own use.³¹ Furthermore, an Internet Web Site is an unknown entity in that an ordinary person who browses a site has no idea who is hosting the site. Many sites now allow for easy downloading of information, including making legal and illegal programs available from the site.³² Since a user cannot know where the Internet site is emanating from, choice of law issues arise.³³ Thus one can see that with a limited amount of knowledge as to the technical workings of computer software, copying programs that have certain legal protections is not a difficult task.

B. *History of Relevant Treaties*

Many nations have already begun to recognize the ease with which

memory capability far beyond that which any single mainframe user would possibly need to run multiple programs. See also MICHAEL C. GEMIGNANI, *COMPUTER LAW CUMULATIVE SUPPLEMENT* 33 (1993).

27. GEMIGNANI, *supra* note 19, at 32.

28. *See Id.*

29. *See Id.* at 34. A number of security locks have been created to disallow certain transfer of data systems. The concept of creating electronic computer protections is further discussed in Section IV: International Copyright Protections – Today and in the Future, Subsection B, *infra*. See also *The Administration's Clipper Chip Key Escrow Encryption Program: Hearings Before the Subcommittee on Technology and the Law*, 103rd Cong. 2nd Sess. (1994) [hereinafter *Clipper Chip*].

30. GEMIGNANI, *supra* note 19, at 490.

31. *Id.* at 492.

32. PETER SWIRE & ROBERT LITAN, *NONE OF YOUR BUSINESS: WORLD DATA FLOWS, ELECTRONIC COMMERCE, AND THE EUROPEAN PRIVACY DIRECTIVE 68* (1998).

33. *Id.*

users pirate software and have turned to international law to seek some level of protection. Currently, a number of international treaties shape the parameters of protection for international intellectual property. These treaties give general guidelines to nation states as to what is acceptable behavior in the copyright realm. In order to apply these treaties to the new world of computer activity, one must place the conventions in the appropriate light of the historical times surrounding their ratification.

1. The Berne Convention

The first treaty to address copyright issues was the Convention for the Creation of an Intellectual Union for the Protection of Literary and Artistic Works, also known as the Berne Convention.³⁴ This treaty was adopted in 1886, but not ratified by many countries until much later.³⁵ The purpose of the Berne Convention was to create a Union of contracting states to ensure "the protection of the rights of authors in their literary and artistic works."³⁶ Although the Berne Convention has been revised six times, it still serves as the basis for international copyright protection.³⁷

In 1886, the term "literary works" was defined as including "every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression. . . ."³⁸ That form was designated as "books, pamphlets, and all other writings. . . in fact, every production whatsoever in the literary, scientific, or artistic domain which can be published by any mode of impression or reproduction."³⁹ Even then, the drafters allowed for science, technology, and the arts to create new forms of "literary works" by adding that "[i]t shall be a matter for legislation in the countries of the Union to prescribe that works in general or any specified categories of works shall not be protected *unless they have been fixed in some material form [emphasis added]*."⁴⁰ Thus, the original stated protection of the convention may cover

34. See generally Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886, 223 U.N.T.S. 11850 [hereinafter Berne Convention].

35. The United States, for instance, did not ratify the Berne Convention with the Berne Convention Implementation Act until more than one hundred years after the original signing. See The Berne Convention Implementation Act of 1988, S. Rep. No. 100-352, (1988) [hereinafter The Berne Convention Implementation Act].

36. Berne Convention, *supra* note 34, at Art. 1.

37. Cohen, *supra* note 17. The original ratification within the first year of the treaty was made in large part by European nation states, and had no Asian or North American signatories. See Berne Convention, *supra* note 34, at Additional Article and Final Protocol.

38. Berne Convention, *supra* note 34, at Art. 4, § 1.

39. *Id.*

40. *Id.* at Art. 2, § 4.

intellectual property issues of today's computer copyright violations.

The Berne Convention affords nation states the right to enforce adherence to copyright laws under a concept of "national treatment." This means that the national laws of protection in the original author's state are the standards that allow application of its own copyright protection laws to citizens of another nation state.⁴¹ Additionally, the treaty delineates a set of minimum standards for all members of the treaty, regardless of a particular nation state's level of national protection.⁴² A minimum standard example found in the Berne Convention is an allowance for the duration of a copyright for the "life of the author plus 50 years," which means that the author's work should be protected throughout his lifetime and 50 years following for his estate holder.⁴³

2. The Universal Copyright Convention

The next substantially effective treaty on international copyright issues was the Universal Copyright Convention, signed into enforcement on September 6, 1952 and revised July 24, 1971.⁴⁴ The purpose set forth in its Preamble mirrors the purpose of the Berne Convention in that both desire to protect the copyrights of literary, scientific, and artistic works.⁴⁵ The Universal Copyright Convention also created certain specificity in determining the parameters of protection.⁴⁶ For instance, Article 2 states "[p]ublished works of nationals of any Contracting State and works first published in that State shall enjoy in each other Contracting State the same protection as that other State accords to works of its nationals first published in its own territory."⁴⁷ This article reaffirms the notion of national treatment of non-citizens as set forth in the Berne Convention.⁴⁸

Formalities for the acquisition of a recognized copyright under the treaty are designated as those works bearing the © symbol.⁴⁹ This is to ensure that reasonable care has been taken to give notice as to an author's claim of copyright and does not preclude any additional forms

41. *See Id.*

42. *See Id.*

43. *See Id.*

44. *See generally* Universal Copyright Convention, Sept. 6, 1952, 6 U.S.T. 2731. Revised July 24, 1971, 25 U.S.T. 1341.

45. *Id.* at Proclamation.

46. *See generally Id.*

47. *Id.* at Art. 2.

48. *See generally Id.* *See also* the United States comparison of the Berne Convention and the Universal Copyright Convention set forth in the Berne Convention Implementation Act, *supra* note 35, at Legislative History.

49. Universal Copyright Convention, *supra* note 44, at Art. 3, § 1.

of notice that a nation state may require.⁵⁰ The treaty also specifically delineates a course of action for disputes arising between nation states that have ratified the convention.⁵¹ It should be noted that a number of second and third world countries have ratified the treaty, including Cambodia, Pakistan, and Haiti,⁵² which becomes important when discussing remedies currently in place, specifically with the implementation of the World Intellectual Property Organization (WIPO) in Section IV.

When the treaty was revised in 1971, greater specificity was once again added for the protection of copyright claimants.⁵³ Article V of the treaty gives a narrow application for when copying and distribution are protected activities by allowing "for the purpose of teaching, scholarship or research" or where the "sending of the copies and their subsequent distribution to recipients is *without the object of commercial purpose [emphasis added]*."⁵⁴ Compensation for properly licensed software should be "consistent with standards of royalties normally operating in the case of licenses freely negotiated between persons in the two countries concerned. . . ."⁵⁵

Both the Berne Convention as the leading authority and the Universal Copyright Convention served as the basis of international copyright protection for the greater part of this century.⁵⁶ Yet, even with the specific parameters incorporated into the Universal Copyright Convention, the Berne Convention affords its members a higher standard of protection and enforcement.⁵⁷ Although both treaties utilize a national treatment concept in determining choice of law, the Berne Convention specifies a variety of minimum standards, which must be adhered to regardless of the legal protections of any particular nation state.⁵⁸

Many world powers did not sign either or both of the treaties until the age of computer technology was well into its formative years. For

50. *Id.* at Art. 3, § 2.

51. *Id.* at Art. 15. This article states that a "dispute between two or more Contracting States concerning the interpretation or application of this Convention, not settled by negotiation, shall, unless the States concerned agree on some other method of settlement, be brought before the International Court of Justice for determination by it."

52. *Id.* at 2827.

53. Universal Copyright Convention as revised at Paris, July 24, 1971, 25 U.S.T. 1341.

54. The emphasis is used to show that where software copyright infringement is occurring and pirates are turning a profit for this activity, the treaty may be used as a legal justification for punishment. *Id.* at 1355.

55. *Id.* at 1356.

56. Cohen, *supra* note 17.

57. The Berne Convention Implementation Act, *supra* note 35, at Legislative History.

58. *Id.*

example, the United States, though a world leader in technology and international import/export trade, did not formally address the effect of piracy and ineffective copyright protection until the late 1980's with the Berne Convention Implementation Act.⁵⁹ The Soviet Union was also conspicuously absent from participation as a member of the treaty.⁶⁰

3. The Berne Convention Implementation Act

Currently, no treaty specifically defines and addresses the computer software piracy issues prevalent in so many countries.⁶¹ As the world leader in software exportation, the United States minimally realized a need to be a signatory to these presidential treaties through the Berne Convention Implementation Act of 1988.⁶² When the United States finally decided to ratify the Berne Convention more than a hundred years after its creation, the United States stated its purpose for ratification as follows:

The Berne Convention Implementation Act of 1988 amends title 17, United States Code, to make the changes to the U.S. copyright law that are necessary for the United States to adhere to the Berne Convention for the Protection of Literary and Artistic Works signed at Berne, Switzerland, on September, 9, 1986.⁶³

In the Berne Implementation Act, the United States explained its rationale for joining the Berne Convention.⁶⁴ The United States acutely realized its need to be involved in the policing, formulating and managing of international copyright law, specifically as the world's largest exporter of copyright materials.⁶⁵ Most importantly was the use of the words "works protected by copyright – such as books, sound recordings, motion pictures, and *computer software . . . [emphasis added]*."⁶⁶ Finally, language dealing with computer software as a protected work began to emerge, though only as an issue on one country's national front.

59. Although the United States was an original ratifier of the Universal Copyright Convention, it did not sign the Berne Convention until 1988. *See Id.*

60. *See Id.*

61. Even in the United States where the national laws governing piracy are clearly stated, the governing national statute does not state anywhere in its definitions what the effects and scope of *computer software* law and protection should be. 17 U.S.C.A. § 101 (West Supp. 1999).

62. *See* The Berne Convention Implementation Act, *supra* note 35, at Legislative History.

63. *Id.*

64. *See Id.*

65. *Id.*

66. *Id.*

4. General Agreement on Tariffs and Trade

A discussion of international intellectual property protection would not be complete without a discussion of the General Agreement on Tariffs and Trade (GATT) and its effects on intellectual property rights. Currently 117 nations have ratified GATT and it is purported to be the most important treaty in existence on international trade.⁶⁷ GATT includes an intellectual property agreement called Trade Related Aspects of Intellectual Property Rights (TRIPS).⁶⁸ TRIPS defines computer programs as protected entities under Berne Convention standards for protection.⁶⁹ Most importantly, the agreement requires member states to give significant legal relief and remedy for copyright infringement found within their countries' borders.⁷⁰

Infringement under GATT consists of both injunctive and monetary damages relief, creating a much higher standard of relief by international agreement than seen in either the Berne Convention, its amendments, or the Universal Copyright Agreement.⁷¹ Member countries also agree to enforce illegal software importing to the extent reasonably possible, while recognizing the difficulty of policing the Internet.⁷² Finally, GATT establishes the World Trade Organization (WTO) as a proper body to handle disputes arising from cross-border disputes of pirated software situations.⁷³ The TRIPS agreement does effectively attempt to recognize the struggles of third world countries in policing such highly developed systems of software exchange by allowing them compliance by the year 2006.⁷⁴ Thus, for the first time, a number of nation states are stipulating a particular body as a legitimate forum for hearing computer copyright disputes.

III. CURRENT PROBLEMS WITH LOWERING PIRACY RATES

Once a clear international interest and rationale for protection is established, many obstacles stand in the way of reaching a political, economic, and legal market for computer software companies. Three distinct problems emerge when attempting to lower piracy rates internationally. The first challenge arises in attempting to police a medium as fluid and intangible as the Internet. Second, is the difficulty

67. See FISHMAN, *supra* note 23, at 10/8.

68. *See Id.* at 10/9.

69. *See Id.*

70. *See Id.*

71. *See Id.*

72. *See Id.*

73. The World Trade Organization is an international agency based in Geneva, Switzerland. *See Id.*

74. *See Id.*

in dealing with the various people involved in the process. The final challenge involves the various issues surrounding choice of law.

A. *Challenges in Policing the Internet*

By its very nature, the Internet is a virtual web of continuously updated cites, digital loops, and encrypted bits. None of these entities are tangible in terms of touch or sight. Even the term to describe this entity, "cyberspace," was coined to capture the essence of this limitless void where, similar to outer space, the limits cannot be properly quantified.⁷⁵ Business commerce on the Internet is reaching astronomic proportions.⁷⁶ Alan Hodel, a spokesman for Compaq Computer Corp., currently the world's largest personal computer maker, stated that e-business will continue to expand.⁷⁷ He further stated that "[a]s PC's evolve, the standards for security need to evolve with them."⁷⁸

Although many people in the industry generally agree with Mr. Hodel's perception, not everyone agrees with his future predictions. Steven Metalitz, the Information Industry Association General Counsel from the United States, held a contrary view at a hearing that was held as part of the White House National Information Infrastructure proceedings.⁷⁹ Mr. Metalitz argued that copyright law must inherently stay flexible and unfettered for a number of reasons.⁸⁰ First, the very fluidity of the computer software world makes it a difficult realm in which to impose a high level of regulation and enforcement.⁸¹ He argued that what was most needed to achieve the objectives of protection was a loosely held set of parameters that will expand and move with the future of the technology.⁸² Second, he argued that what was needed for protection instead of greater regulation was for the legal world of contracts to become a greater player in the digital environment.⁸³ In essence, with creative contracting of software use and sales, one could just as easily meet protection ends.⁸⁴ This is,

75. Cohen, *supra* note 17.

76. USA TODAY TECH REPORT, *supra* note 13. See also Communications Daily, Sept. 15, 1999, available in LEXIS, Academic Universe Database. Online software piracy losses are costing the computer industry \$11 billion per year and almost 2 million current Web sites are guilty of selling or providing opportunities for computer software theft.

77. Internet commerce in 1998 was \$43 billion and is expected to increase to \$103 trillion by 2003. See USA TODAY TECH REPORT, *supra* note 13.

78. *Id.*

79. *Information Law Alert: A Voorhees Report, Will Information Highway Trample Intellectual Property Rights? Excerpts from Hearing on NII*, VOORHEES REPORT, Jan. 21, 1994, available in 1994 WL 2403765.

80. See *Id.*

81. See *Id.*

82. See *Id.*

83. See *Id.*

84. See *Id.*

however, the opinion of a small and diminishing minority.

B. Challenges in Dealing with the Human Element

The fluidity of the product and cyberspace issues prevent many people from rationalizing that the behavior of illegally acquiring software is truly theft, in both the ethical and legal realm.⁸⁵ One popular philosophy is that software prices are too expensive to justify giving the patent holders protection.⁸⁶ Another philosophy is that the inventors of computer software already make substantial profits on their product's creation and should not be reaping benefits in addition to this economic gain.⁸⁷ The people who believe either of these philosophies are in both the developing and the developed countries, as seen by the wide array of countries experiencing high percentages of illegal software.⁸⁸

A reasonable person in most cultures and nations understands that walking into a store and taking an item that they did not pay for, even if that item is a 50-cent piece of candy, is considered theft by society's standards.⁸⁹ Yet, large masses of people do not believe that sharing computer software that they did not purchase should be considered illegal.⁹⁰ This is especially true in the communist and less developed countries where sharing resources is both a philosophy and a standard for life. This comparison directly correlates with the view that the very essence of software copyright is not an entity to be legally protected. The people who share these philosophies are either staunch advocates of a free flow of information on the Internet⁹¹ or are, more generally, people who do not hold a strong view on the subject but do not see the ethical improprieties of copying the software of a friend or a colleague.⁹²

There are also those who fully acknowledge the illegality of software piracy, but have other reasons for disregarding copyrights laws. These groups of people are generally either "hackers"⁹³ or are part of the organized crime movement in piracy. Hackers and members of the organized crime groups both act intentionally, however their

85. See CORPORATE MISCONDUCT: THE LEGAL, SOCIETAL, AND MANAGEMENT ISSUES 139 (Margaret P. Spencer & Ronald R. Sims, eds., 1995).

86. See *Id.*

87. See *Id.*

88. See Creed, *supra* note 7. See also Li, *supra* note 8. See also Mosquera, *supra* note 9.

89. See CORPORATE MISCONDUCT, *supra* note 85.

90. Cohen, *supra* note 17 at 409.

91. *Id.*

92. See CORPORATE MISCONDUCT, *supra* note 85.

93. "Hacker" is a term reserved for that body of people who consider it sporting to try and beat the encryption and protection systems set up by software manufacturers.

primary goal may be different. Often, economic advantage is secondary to the hacker's personal need to "beat the system" of a powerful computer corporation.

Organized crime, on the other hand, is becoming a worldwide economic activity. Between 1997 and 1999, criminal software counterfeiting rings have been unearthed in numerous states including: California, Texas, China, Russia, and the United Kingdom.⁹⁴ Profits from these rings are distributed to support more traditional forms of organized crime, including money laundering, narcotics, and terrorist operations.⁹⁵ The most telling fact that demonstrates the reach of organized crime software pirates is that much of their copied software is being sold to legitimate corporations. These corporations discover after the fact that they purchased unlicensed goods and have no arena to seek an appropriate remedy for poorly functioning software.⁹⁶ For all these reasons, the human element continues to be a factor in curbing the tide of computer software piracy.

C. *Challenges in Dealing with Choice of Law*

An additional problem with lowering the piracy rate is that the issues surrounding choice of law across national boundaries are seemingly more complex than that of dealing with people on an individual basis.⁹⁷ Nations may have laws governing copyright protection within their borders and may be willing to only abide by that domestic standard for protection, however inadequate it may be for copyright holders.

Nation states have dramatically varying viewpoints as to the necessity and protection of software copyrights. Despite the numerous treaties set up to allow a standard of "national treatment"⁹⁸ to determine choice of law, nation states have such varying laws and guidelines for their national treatment that no true uniformity exists. Additionally, other nation states that are not members of any of these industry-leading treaties may apply a completely different minimum standard or no standard of protection whatsoever.⁹⁹

Another point of contention exists in determining the exact point the copyright infringement occurs; whether it be at the point of transmittal, at the receiving end, or when applicable, when raw

94. *Microsoft to Donate \$25 Million*, *supra* note 1.

95. *Id.*

96. *Id.*

97. Cohen, *supra* note 17, at 407-08.

98. See discussion of the Berne Convention and Universal Copyright Convention in Section II: History and Background of Issue, *supra*.

99. Paul Edward Geller, *From Patchwork to Network: Strategies for International Intellectual Property in Flux*, 31 VAND. J. TRANSNAT'L L. 553, 557 (1998).

transmitted data is actually changed into usable software.¹⁰⁰ For example, consider the choice of law issues that arise if the European Union (EU) transmits raw data to China, where European Union law has national treatment protection against reception of transmitted software but does not consider raw data to be a finished product.¹⁰¹ To complicate the choice of law issue, the receivers in China only protect for software reproduction and are more comfortable disregarding sanctioning where their nationals are in receipt of raw data but are not the sellers of the end product software across trans-boundary lines.¹⁰² Does this mean that a country with relaxed transmittal laws, like the EU in this example, will become safe havens from which pirates can transmit?¹⁰³

The European Union boasts over 340 million consumers, making it the largest trading body in the world.¹⁰⁴ All countries within the EU have chosen to create an intellectual property directive, called the EC Software Directive, which mirrors the United States in its treatment of software copyright protection.¹⁰⁵ Thus, copyright holders in either the EU or the US can feel relatively secure in their ability to protect their works, since the laws tend to compliment each other.¹⁰⁶ The same reciprocity exists for copyright holders in Japan, which accounts for 20% of the worlds computer markets.¹⁰⁷ Canada is another country with similar laws governing copyright protection and is a signatory to the Berne Convention and GATT, along with Japan, the EU and the US.¹⁰⁸ Choice of law becomes a great issue when dealing with countries that either have not ratified any or all of the treaties discussed, or for countries that do not have the resources or interest in policing within their borders.

Some governments and private corporate affiliations have even struck back at international private organizations that attempt to police piracy, as was the case recently in the United Kingdom.¹⁰⁹ The Association of Chartered Certified Accountants (ACCA) attacked the Business Software Alliance (BSA) for being too aggressive in its policing of local corporations.¹¹⁰

100. *Id.* at 556.

101. *Id.*

102. *Id.*

103. *Id.* at 556-57.

104. *See* FISHMAN, *supra* note 23, at 10/11.

105. *See Id.*

106. *See Id.*

107. *Id.* at 10/13.

108. *See Id.* at 10/15.

109. *See* Guy Middleton, *Anti-Piracy Group Accused of Bullying*, CMP MEDIA, INC., Aug. 26, 1999, available in LEXIS, Academic Universe Database.

110. *Id.*

The ACCA went so far as to tell corporations to disregard warnings from BSA about possible litigation and called BSA's behavior ineffective "bullying."¹¹¹ The ACCA flatly believed that the BSA activity was out of the policing power of the privately supported organization and should not have occurred.¹¹²

International backlash as to what is appropriate policing behavior is not altogether surprising when one considers the differing opinions present within a country's national boundaries.¹¹³ Some individuals believe in opening up patent control so that technology can continue to advance at its rapid pace without being hindered by many of the issues surrounding protection.¹¹⁴ Often, the companies screaming about no international protection against piracy are the same institutions that demand a breakdown of current protective barriers.

IV. INTERNATIONAL COPYRIGHT PROTECTIONS – TODAY AND IN THE FUTURE

A number of options are available domestically and internationally to both force compliance of copyright laws and patents on computer software, and to lower losses through piracy. Foremost in these new attempts at protection is the creation of the World Intellectual Property Organization (WIPO). Nations and private computer companies have also explored the possibility of adding encryption devices to their software as a means of shielding their software from illegal copying. Additionally, privately supported policing organizations have emerged and have begun receiving a certain amount of authority in regulating the industry. Many of the companies represented by these private organizations have also taken strides to implement media strategies such as hotlines or by donating large copyright settlements to charities in an effort to get the average employee interested in assisting in the fight against piracy. Finally, many companies, regardless of their level of technology, have taken active steps to implement internal safety nets so that the company will not fall prey to the dangers of litigation by copyright holders. These copyright protections are discussed below.

111. The ACCA claimed that the BSA was sending letters to companies demanding compliance within certain frameworks of time and alluding to fines and punishment of prison for those companies who chose not to comply. *Id.*

112. *See Id.*

113. For example, outcry over computer software patents dealing with technologies and systems that were issued in the United States from 1982 to 1989 was so great that Bruce Lehman, then commissioner of patents and trademark, implemented a re-examination of patent control and licensing. *Will Patents Hinder Development of Electronic Highway? Events in 1994 Hold the Answer*, 2 VORHEES REPORT 2, Jan. 21, 1994 at 1.

114. *Id.*

A. *The World Intellectual Property Organization*

WIPO is one of the 16 specialized agencies under the organizational structure of the United Nations.¹¹⁵ The Convention Establishing the World Intellectual Property Organization signed at Stockholm on July 14, 1967 and as amended on September 28, 1979 officially established WIPO as a fully authorized entity with the official support of the United Nations.¹¹⁶ Headquartered in Geneva, Switzerland, the organization was created to deal with the education and promotion of intellectual property.¹¹⁷ This purpose includes structuring and ratifying multilateral treaties that address the concerns of intellectual property.¹¹⁸ As of August, 1998, over 170 nation states are active members of WIPO.¹¹⁹

Although a specific computer reference is not made within "Article 2 – Definitions" of the WIPO Convention, Article 2 does designate the following to be within the field of intellectual property: "inventions in all fields of human endeavor, . . . industrial designs, . . . trademarks, service marks, and commercial names and designations, . . . and all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields."¹²⁰ Thus the protection of computer software is inherently understood to be within the scope of WIPO protection. WIPO also sets forth in its International Protection of Copyright and Neighboring Rights (also called the WIPO Rights), designations of what types of works are considered "protected works" under the WIPO umbrella of specialization.¹²¹ The WIPO Rights specifically state that "[s]ome copyright laws provide that *computer programs* are to be protected as literary works."¹²²

115. The World Intellectual Property Organization Official Web Site (visited Nov. 29, 1999) [hereinafter Official Web Site] <<http://www.wipo.org/eng/dgtext.htm>>.

116. Convention Establishing the World Intellectual Property Organization, July 14, 1967. *Revised* Sept. 28, 1979 [hereinafter WIPO Convention].

117. See Official Web Site, *supra* note 115.

118. The other major purpose of the organization is to act as an assistant in the development of intellectual property in underdeveloped countries. *Id.*

119. Six additional nation states were parties to WIPO treaties as of that date and had not yet become official members. Over 50 Least Developed Countries have gained membership into WIPO and are seeking assistance in their intellectual property development. Included are members from Africa, Asia, the Pacific Islands and the Caribbean. A few countries by name are Haiti, Somalia, Cambodia, Chad, Nepal, and Samoa. *Id.*

120. See WIPO Convention, *supra* note 116, at Article 2.

121. Many of the "protected works" discussed are those works specifically designated in the Berne Convention of 1886; including literary works, technical drawings, and musical works. See Official Web Site, *supra* note 115. See also Berne Convention, *supra* note 34.

122. See Official Web Site, *supra* note 115.

The designated WIPO rights further clarify when a copyrighted work can receive protection.¹²³ The most typical copyrighted protections require that the user must have authorization from the works' author in the following situations, "the right to *copy or otherwise reproduce* any kind of work [and] the right to *distribute* copies to the public."¹²⁴ These protected situations directly relate to the use of pirated software as an illegal activity. WIPO further stipulates that "international protection" is designed to allow nation states the right to concern themselves with "acts accomplished or committed in the State itself."¹²⁵ Thus, a citizen may find his rights unprotected in a nation state where he is not a citizen.¹²⁶

On December 20, 1996, The Agreed Statements Concerning the WIPO Copyright Treaty (Agreed Statements) was adopted by the Diplomatic Conference on Certain Copyright and Neighboring Rights Questions in Geneva, Switzerland.¹²⁷ This was an important piece of treatise in that it unequivocally attached international protection to the "digital environment" as set forth in the Amendment "Concerning Article 1(4)."¹²⁸ Specifically, the agreement stated that "reproduction right, . . . and the exceptions permitted thereunder, fully apply in the digital environment, in particular to the use of works in digital form."¹²⁹ Thus, WIPO recognized computer software piracy as a legitimate problem to be afforded the protections and punishments of any organizational issue within the sphere of the United Nations. Although this was a substantial step forward in intellectual property protection, choice of law issues were still not fully resolved.

123. *Id.*

124. *Id.*

125. *Id.*

126. WIPO Internet Domain Name Process describes another convention which met specifically to deal with the intellectual property issues and conflicts surrounding international use and protection of Internet domain names for web sites. The organization made a recommendation to create a sub group called the Internet Corporation for Assigned Names and Numbers (also known as ICANN) the purpose of which is specifically to manage and negotiate conflicts in domain names at the international level. Thus WIPO is opening its purpose to all forms of complex issues facing the digital environment. See generally WIPO Internet Domain Name Process (visited Nov. 29, 1999)

<<http://exommerce.wipo.int/domains/process/eng/wipol.html>>.

127. More than 600 delegates comprising over 160 governments and 150 non-governmental agencies came together to take a dramatic step in updating the Berne Convention. WIPO Official Web Site CRNR/DC/96 – WIPO Diplomatic Conference on Certain Copyright and Neighboring Rights Questions (visited Nov. 29, 1999) <<http://www.wipo.org/eng/diplconf/distrib/96dc.htm>>. See also *Computer Industry Groups Support New WIPO Treaties*, M2 COMMUNICATIONS LTD., Dec. 6, 1996, available in LEXIS, Academic Universe Database.

128. WIPO Official Web Site CRNR/DC/96, *supra* note 127.

129. *Id.*

B. The Use of Encryption as a Means of Protection

Another option to help curb copyright infringement is the use of encryption for software. This option has been explored at the governmental and at the private corporate levels. One example of this is the Clipper Chip, a United States government creation that essentially acts to encrypt computer technology so that unauthorized users cannot pirate the encrypted information or programs.¹³⁰

Clipper serves a greater number of functions as it is upgraded and applied to computerized programming in the general course of business. The United States government's regulation of the Clipper Chip would allow two government agencies the ability to decode any forms of communication that seemed questionable to national security.¹³¹ Essentially, if Clipper or some international standard of cryptography were available, it would allow users to further safeguard their programs.

One application would allow authorized users of a protected program to call a help service as part of its rights under the licensing agreement in order to receive a passkey for use.¹³² The government's Clipper Chip is not the only one of its kind. Wave Systems of New York is implementing similar types of chips that are installed into a computer, thus allowing a program to be sent in scrambled form and unscrambled on a pay-by-use basis.¹³³ Electronic Publishing Resources of Sunnyvale, California has developed the most aggressive invention so far.¹³⁴ Their application of encryption is a virtual "container" that surrounds digital works. In effect, this container leaves behind a traceable trail of the program as it is used and even as it travels through computer networks, allowing the author of the program to collect royalty fees in the event that the program is copied or

130. Originally the chip was installed into computer mainframes and enabled users to encrypt data messages. Then when a court order deemed investigation appropriate, the government could decode the messages. The first prototype was a creation of AT&T who used it in cell phones to assist in scrambling messages so as to keep cell phone conversations protected. Originally Clipper was created as a means of watch-guarding certain classified government contracts and databases from falling into the hands of terrorists and gangsters. *Why Care About Clipper*, 2 VOORHEES REPORT 7, Mar. 25, 1994 at 1.

131. *Clipper Chip*, *supra* note 29. President Ronald Reagan gave the Department of Defense and the National Security Agency the responsibility of setting standards for cryptography through use of Clipper in both the government and private sectors in 1984. See also VOORHEES REPORT, *supra* note 130 at 4.

132. *Technological Solutions Rise to Compliment Law's Small Stick Guarding Electronic Works*, 3 VOORHEES REPORT 11, June 16, 1995 at 1.

133. *Id.* at 2.

134. *Id.* at 3.

distributed elsewhere on the Internet.¹³⁵

Even technologically advanced systems like these have their drawbacks. Many large international companies are concerned as to who will hold the rights to decrypting. Additionally, many states would like to see this encryption technology widely used and deregulated, creating a type of "copyright within a copyright" situation for the inventors of the encryption devices.¹³⁶ Thus, the rationale for using encryption as a form of piracy protection would inevitably backfire, allowing exterior entities access to business information. Whatever the outcome of encryption devices, one can be certain that as encryption techniques are developed there will be some computer wizard or hacker discovering ways to get around such devices.

C. Organizations Dedicated to Educate, Punish, and Litigate Against Piracy Offenders

Privately established organizations are currently attempting to regulate and lower the amount of computer software piracy internationally. The rationale for these organizations was that companies attempting to sue for enforcement of their copyrights had an extremely expensive undertaking. Thus software trade associations gave individual companies the ability to become members of organizations that would enforce standards on their behalf.¹³⁷ These organizations serve a number of important functions: collecting appropriate data on the amount of international software piracy; following longitudinal trends to see where and how piracy is losing ground; and, in recent years, enforcing, punishing, and litigating against offenders.¹³⁸

The most prominent of these is the Business Software Alliance (BSA), which has affiliations and branches all over the world.¹³⁹ Originally a Washington-based private interest, the BSA represents companies like Adobe, Macromedia Inc., and Symantec Corporation.¹⁴⁰ Additionally such recognized and leading companies of personal computer software are members including, Apple Computer, Autodesk,

135. *Id.*

136. For instance, in the United States where the Clipper Chip was first implemented, if the national government saw reason to decode a particular communication or a series of data exchanges, businesses might be forced to defend their right to not be invaded by government. See VOORHEES REPORT, *supra* note 130 at 2.

137. FISHMAN, *supra* note 23, at 10/24.

138. FISHMAN, *supra* note 23, at 10/25.

139. The BSA is active in more than 65 countries and has been litigating against offenders since 1988. *Computer Industry Groups Support New WIPO treaties*, M2 PRESSWIRE, at 2, Dec. 6, 1996, available in LEXIS, Academic Universe Database [hereinafter *Computer Industry Groups*].

140. Young, *supra* note 2.

Bentley systems, Lotus Development, and Microsoft.¹⁴¹

As part of BSA's interest in heightening awareness as a means of lowering piracy rates, the association recently published a study on the effect of piracy in Australia concluding that local businesses are losing \$286 million per year to piracy. The BSA then followed up that study with education on how such a grave loss affects the economy as a whole for the country.¹⁴² By educating governments on the national effects of piracy regarding their economy, BSA creates a dual purpose in both educating and getting the government actively involved in movement towards protection.

Latin America is another example where the BSA has gotten the government directly involved with piracy issues so as to substantially increase national revenue and boost the economy. Nearly 150,000 jobs and \$3.5 billion in sales were generated in Latin America in 1998 through the computer software trade.¹⁴³ Robert Holleyman, president of BSA International, stated that "reducing software piracy would double those figures".¹⁴⁴ "Reducing piracy to even 25 [%] would have produced \$5.3 billion more in sales, 206,400 more jobs, and \$1.9 billion in tax revenues in 1998, the report said."¹⁴⁵ Additionally, "in 2002, sales would reach \$10.3 billion, 291,600 jobs, and \$3.6 billion in tax revenue."¹⁴⁶

The BSA is not simply an information gatherer. It acts as an enforcer and informant to governments around the world. At a three-day event held in Switzerland by WIPO, Holleyman told members of the organization that as of late 1999, there were more than 2 million Web Sites which have downloadable files or links to pirated software, also known as "warez" in Internet terminology.¹⁴⁷ Thus, through BSA's studies, governments have a better idea of where to look for copyright abuse. Additionally, greater results are seen where private organizations like BSA are jointly enforcing with government enforcement entities. Such was the case in Singapore where the BSA

141. *Computer Industry Groups*, *supra* note 139.

142. *Australia's Business Software Association asks Federal Government to Take Action Against Piracy which it says Costs Local Businesses \$286 Mil/Yr.*, 11 3rd WAVE COMMUNICATIONS PARTY LTD. 26, July 9, 1999, available in LEXIS, Academic Universe Database.

143. Mosquera, *supra* note 9.

144. Holleyman's study determined that greater than six out of ten software applications installed throughout Latin America in 1998 were not properly copyright protected. *Id.*

145. *Id.*

146. *Id.*

147. This figure is more than double the numbers of warez sites from 1998. Sylvia Dennis, *E-Piracy Threatening E-Commerce, Says BSA's Holleyman*, POST-NEWSWEEK BUSINESS INFORMATION, INC., Sept. 14, 1999, available in LEXIS, Academic Universe Database.

informed the government of significant piracy rings and the government proceeded to exercise more than 700 raids of companies.¹⁴⁸

Finally, the BSA has recently begun to publish guidelines, programs, and packages that companies can internally use or governments can externally adopt in order to lower piracy rates. The Guide to Software Management (The Guide), a manual established in the United Kingdom, was purposely designed "to provide a practical guide to combating the damaging effects of illegal software and how it affects the competitiveness of British businesses."¹⁴⁹ The Guide includes a presentation disk to be used as a teaching manual for upper management, a demonstration audit disk to teach how companies can do their own internal auditing, and information on UK law such as the European Software Directive.¹⁵⁰ A similar BSA program exists in the Philippines called Technology Asset Management, which focuses on how businesses realistically benefit from enforcing intellectual property rights.¹⁵¹

The Software Publishers Association (SPA) is another organization dedicated to fighting international software piracy. Originally created to fight piracy in the United States, SPA is now attempting to lower piracy infringements in Singapore, Korea, Taiwan, France, Mexico, Brazil, Australia, and Italy.¹⁵² SPA recently conducted a study that determined 99% of the software used in Pakistan, Thailand and Indonesia was pirated from other countries.¹⁵³

A third organization called the Alliance Against Counterfeiting and Piracy (AACP) has recently joined the battle. The focus of AACP is similar to SPA and BSA in that this organization comprises a number of private industry leaders who have named as their main purpose the education of governments on the detrimental effects of piracy concerning their national economies and private sectors.¹⁵⁴ AACP hopes to not only teach certain disinterested nation states that piracy is as clearly theft as any other type of illegal taking, but that these nation

148. More than 700 million pirated items were taken from the businesses and destroyed. *Software Watchdog Seeks Pact with ISPs in Singapore*, ASIA PULSE PTE. LIMITED, Nationwide Financial News Section, Sept. 7, 1999, available in LEXIS, Academic Universe Database.

149. *New BSA Guide Will Help Companies Reduce Risk of Illegal Software*, M2 COMMUNICATIONS LTD., Oct. 1, 1997, available in LEXIS, Academic Universe Database.

150. *See id.*

151. Erwin Lemuel G. Oliva, *Biz Sector is Top Software Pirate, Says BSA*, POST-NEWSWEEK BUSINESS INFORMATION, INC., June 14, 1999, available in LEXIS, Academic Universe Database.

152. FISHMAN, *supra* note 23, at 10/24.

153. Additionally, China has piracy rates of 94%, Brazil is at 83% and Taiwan is around 84%. *Id.*

154. David Bicknell, *Multi-Industry Alliance to Beat Piracy*, COMPUTER WEEKLY, July 8, 1999, available in LEXIS, Academic Universe Database.

states should also create criminal sentencing under a nation's general criminal penalties for theft.¹⁵⁵ With the help of private organizations such as these, nations are becoming increasingly educated on the need for action at the national and international level.

D. Hotlines and Charitable Donations of Settled Suits

Recently, two other tools for curbing piracy have emerged worldwide. The first of these new tools creates greater self-enforcement through the establishment of computer piracy hotlines. Organizations like BSA have established 24-hour hotline numbers for anonymous tips regarding piracy. The BSA operates more than 35 such lines around the world, allowing a caller to not only report unauthorized activity that they might be aware of, but also to get information regarding a certain prohibited activity.¹⁵⁶ With the tips they receive, BSA can then do internal audits of a company's compliance with piracy law. Even countries like Malaysia, struggling to fully step into the modern world of computer technology, have found benefits in establishing the hotlines.¹⁵⁷

Another popular tool in computer education and enforcement is establishing charities that assist in computer education through money received in piracy settlements. For example, in Hong Kong, the BSA offered to donate free software to the nation's charities every time it wins a copyright protection suit.¹⁵⁸ Two non-profit organizations have been chosen as the first organizations to receive \$30,000 in software for their use, once BSA reaches its next big litigation settlement.¹⁵⁹ Additionally, the BSA continues to offer \$15,000 rewards for successful tips on corporations violating copyright laws.¹⁶⁰

Private industry organizations are not the only ones using these types of incentive programs. Private companies like the Microsoft Corporation have also implemented programs where non-profit organizations focusing on information technology education receive

155. *Id.* The alliance consists of the BSA, the Federation Against Copyright Theft, and the European Leisure Software Publishing Association.

156. Again, the focus of many of these services is for education. *Computer Industry Groups, supra* note 139.

157. *Malaysian Company Launches New Anti-Software Piracy Hotline*, ASIA PULSE PTE. LIMITED, Apr. 23, 1999, available in LEXIS, Academic Universe Database.

158. The Pegasus Organization and Caritas Institute for Further and Adult Education, which provide information technology educational services around Hong Kong, have been chosen to receive these settlement donations. IT Daily, *Hong Kong Charities to Benefit from Anti-Piracy Drive*, POST-NEWSWEEK BUSINESS INFORMATION, INC., Aug. 18, 1999, available in LEXIS, Academic Universe Database.

159. *Id.*

160. Williams, *supra* note 4.

money obtained from settlement recovery and judicial awards.¹⁶¹ Microsoft has set aside a \$25 million donation that will be distributed at a rate of \$5 million per year for the next 5 years. One of these programs, CyberCare, a Microsoft establishment in Kuala Lumpur, Malaysia, donates money and computers to orphanages throughout the area.¹⁶² Another such program is Microsoft's European Scholar Programme that has provided over 6,000 unemployed members of the EU with the technology education to become valuable workers in the technology industry.¹⁶³ Programs such as these are creating a greater incentive for people to inform organizations like the BSA of illegal corporate activity.

E. Internally Implementing Self-Policing Practices

The battle between copyright protection and free-for-all software piracy is experiencing some victories. BSA stated that piracy rates have been falling modestly since 1994.¹⁶⁴ The organization discusses several reasons for the decline, including lowering the price of commercial software to make it more affordable.¹⁶⁵ Also, governments are taking a more active role in protecting intellectual property rights within their own borders and in relation to international trade.¹⁶⁶ The rise in piracy litigation is also acting as a deterrent.¹⁶⁷

Researchers also suggest that companies take internal steps to minimize the chance of being caught in litigation over piracy issues by taking some proactive and precautionary measures.¹⁶⁸ First, educating employees is key to ensuring that they understand the liability involved in copyright theft.¹⁶⁹ Through appropriate training, companies can educate employees on the risks they all face and the possible detriments to the overall effectiveness of a company if it does not adequately protect itself.¹⁷⁰ Second, the company should publish an official stance

161. Microsoft first began this campaign in the United States in 1983 and took the program international in 1998. *Microsoft to Donate \$25 Million, supra* note 1.

162. *Id.*

163. *Id.*

164. Young, *supra* note 2.

165. *Id.*

166. For instance, the United States is a forerunner in this endeavor through the joint efforts of the State Department, the U.S. Trade Representative, and Department of Commerce's Patent and Trademark Office who are all formally asking foreign governments to take an active role in piracy. *Id.*

167. *Id.*

168. CORPORATE MISCONDUCT, *supra* note 85.

169. Corporations must recognize that their employees will very likely fall into the category of people discussed above who have no feelings toward the illegality of sharing software. *Id.*

170. *Id.*

on piracy and a method of office protocol for dealing with offenders.¹⁷¹ Thus, employees recognize that their employer regards piracy as a serious issue.

Finally, companies can help enforce an anti-piracy policy by creating a generalized code of computer ethics for all of the employees.¹⁷² Many employees may not have a full grasp of what constitutes piracy. A general code of computer ethics allows employees to better understand what is expected of them within the workplace in terms of computer usage.¹⁷³ All of these company protections may seem extreme until they are weighed against the punishments available for companies participating in software piracy. Thus, all companies can take proactive, self-policing steps to ensure that they are not at risk for copyright infringement. Where there is clarity, employees will be less likely to engage in behavior that may later cost the company millions in litigation.

V. CONCLUSION

A. *Rationale for Supporting Copyright Protection*

The reasons for international support regarding copyright protection cover a wide spectrum. First, the most obvious rationale for protection of private persons or corporations is that illegal copying of software creates a direct loss in profits to the creator of the software or to the holder of the software patent.¹⁷⁴ These losses are enormous, evidenced in the statistics previously noted.¹⁷⁵

Secondly, the support of copyright protection ensures that the end product purchased has product quality equal to that of every single legal user of the product.¹⁷⁶ Pirated products have a higher probability of poor software quality.¹⁷⁷ Furthermore, once a problem arises, the lack of legal copyright verification leaves them with little remedy or the ability to use a software help service, since they have no legal licensing documentation to direct their inquiries.¹⁷⁸

Finally, nations themselves are beginning to take note of the

171. *Id.*

172. *Id.*

173. *Id.*

174. Young, *supra* note 2.

175. See Creed, *supra* note 7. See also Li, *supra* note 8. See also Mosquera, *supra* note 9.

176. Microsoft to Donate \$25 Million, *supra* note 1.

177. Customers who purchase illegal products over the Internet continuously find that their software is plagued with viruses or is substantially lacking in quality. *Id.*

178. *Id.*

significant economic losses that their country suffers through lost wages, lost taxes, and lost economic gain. For example, BSA of Australia published a study to their government where they stated that local businesses are losing approximately \$286 million per year to piracy.¹⁷⁹ Where Australia is estimating that 33% of business software is copied illegally, the organization has asked the national government to assist in policing measures in order to bring this percentage down to 27%.¹⁸⁰ Ultimately, where governments are taking an active role in policing and punishing offenders, their national piracy rates are destined to drop.

Many more examples of governments feeling the loss in their national economies through illegal software sales exist.¹⁸¹ However, national economies do not simply suffer through lost wages and taxes. Some developing and under-developed countries currently find themselves in a detrimental position where international computer corporations will not even establish a market in the country since there are no anti-piracy laws of any kind in effect to protect the company. Pakistan recently overcame this hardship when Microsoft Corporation finally solidified plans to set up corporate branches and agreed to invest roughly \$150 million for employee training, potentially creating \$100 million in new revenue for the country.¹⁸² Thus, whether a country is highly developed or developing, computer software piracy is a topic that needs immediate attention.

B. Time for an International Computer Copyright Treaty

The time is ripe for a specific international treaty that can create greater enforcement and recovery. Treaties like GATT and WIPO's Agreed Statements have successfully linked modern computer technology to the protected works treaties of the past, including the Berne Convention and the Universal Copyright Convention. But this is

179. *SHORT TAKES: Business Software Association of Australia*, EXCHANGE TELECOMMUNICATIONS NEWSLETTER, July 9, 1999, available in LEXIS, Academic Universe Database.

180. A mere 6% drop in software piracy would generate an estimated additional \$797.76 million in sales and would create 7,332 more jobs nationally by the year 2001. Adam Creed, *Software Manufacturers Call for Action on Piracy Down Under*, POST-NEWSWEEK BUSINESS INFORMATION, INC., July 5, 1999, available in LEXIS, Academic Universe Database.

181. Indonesia is another example in that it is considered one of the worst countries in the world for utilizing pirated software. Whereas software sales in the country averaged \$600 million, the loss of state import duty and luxury sales tax to the national economy totals roughly \$200 million per year. See *Computer Software Piracy Cases Decline in Indonesia*, ASIA PULSE PTE LTD., May 28, 1999, available in LEXIS, Academic Universe Database.

182. *Microsoft to Set Up Training Institutes in Pakistan*, ASIA PULSE PTE LTD., Sept. 2, 1999, available in LEXIS, Academic Universe Database.

not enough. These modern treaties are a good foundation for educating governments on the issues surrounding international property software piracy, but they do not prove themselves to be good tools in the enforcement and remedy arenas.

Minimally, GATT should incorporate an intellectual property code, an idea that was previously explored in the Berne Convention Implementation Act.¹⁸³ In this intellectual property code, any nation state that agrees to the terms of GATT and benefits from its trade policy, must also agree to enforcement of certain standards of copyright protection. Those standards would be negotiated by participation in a GATT revision convention. WIPO would also be a strong guide in the development of this new treaty.

A new intellectual property code would be effective in that those nation states choosing to sign the GATT/WIPO revision could be monitored and held to the standards created. Questions like choice of law and distribution issues could then be directly addressed. Additionally, provisions could be added that specifically delineate what governing body would hear cases dealing with copyright infringement. Determining one true medium for arbitration and dispute resolution would be an important part of the new treaty. Suggestions as to what governing body would be most effective in this role would be the WTO¹⁸⁴ or a WIPO body specifically invested with that authority under the United Nations.

Provisions would also have to be established to set standards for nation states that do not choose to ratify the treaty. Certain GATT allotments might be withheld from these countries.¹⁸⁵ This proposed treaty must respect the needs of developed versus developing countries. If a particular developing country simply does not hold the treaty to be in its best interests, then WIPO may be able to assist that country in developing standards and technology to create a firmer ground of equality with more developed countries.

The most difficult piece of this new treaty would be attempting to balance a broad and discretionary local control against a national networked framework of definitions, choice of law, and the like. Upholding a nation's sovereignty while protecting the rights of companies across international boundaries will not be a simple task. Regardless, it is a task that must be attempted in the coming years. Ultimately, the worst decision international bodies can make regarding

183. The Berne Convention Implementation Act, *supra* note 35, at Legislative History.

184. This concept was previously stated *supra*, note 73.

185. The author notes that certain countries may view embargoes such as this an unacceptable use of force and is meant merely as an avenue for exploration. Setting specific legal structures and rules for such a code is beyond the scope of this article.

the future of intellectual property rights would be to do nothing. This is true regardless of whether the nation is capitalist or communist, leading the world or third world.

If nations do not realize their position as the best arena for enforcing protection and remedies, then the world of intellectual property will continue to advance and nations will continue to suffer great losses in work force and corporate gain, detrimentally effecting intellectual property commerce.

