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I. INTRODUCTION

Since the promulgation of the first copyright law of the People's Republic of China (P.R.C.) in 1990 ("Copyright Law"), the United States (U.S.) has continually called upon the P.R.C. government to strengthen and enforce its copyright laws to combat the piracy of computer software and other copyrighted works in the P.R.C. In 1995, piracy of computer software in the P.R.C. cost the American software industry an estimated $525 million dollars, more than twice the amount lost in 1991, the year the P.R.C.'s Copyright Law took effect. Not surprisingly, the initial

1. The Copyright Law of the People's Republic of China, 7th Nat'l People's Cong., 15th Sess. of the Standing Comm. (1990), translated in CHINA L. & PRAC., Oct. 1990, at 26, 26 [hereinafter Copyright Law]. The Copyright Law was adopted on September 7, 1990 and took effect on June 1, 1991. Id. The official name of the P.R.C. Copyright Law in Chinese is zhuzuoquanfa, which is literally translated as the "Author's Rights Act." Guo Shoukang, 1 INT'L COPYRIGHT LAW AND PRACTICE, China, § 1 at 11 (Paul E. Geller ed., 1992). Although the term banquan or "copyright" is more commonly used, the term zhuzuoquanfa or "author's right" is used throughout the text of the Copyright Law. Id.; see also Shen Rengan, "Copyright" and "Author's Right" as They Are Understood in China, CHINA PAT. & TRADEMARKS Q., Jan. 1990, at 55, 56. Article 51 of the Copyright Law provides that "the term zhuzuoquan used in this Law is synonymous with the term banquan." Copyright Law, supra, art. 51 at 42.

In order to clearly distinguish between references to the P.R.C. Copyright Law and the U.S. Copyright Act, the P.R.C. law is referred to throughout this Note as the Copyright Law, rather than the Author's Rights Act or Copyright Act, as it is alternatively translated.

2. The terms computer software and computer program are used interchangeably throughout this Note and are intended to be synonymous.


expectation and euphoria⁵ that accompanied the enactment of the P.R.C.'s long-awaited Copyright Law has been replaced by uncertainty and continuous threats of trade sanctions.⁶

The U.S., one of the world's largest producers of computer software,⁷ has exerted tremendous pressure on the P.R.C., one of the world's largest pirates of copyrighted software,⁸ to provide adequate protection to

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6. In the years following the enactment of the Copyright Law, the U.S. Trade Representative has placed the P.R.C. on watch lists or priority watch lists under Section 301 of the Trade Act of 1974 and recommended trade sanctions be imposed on P.R.C. goods. See infra note 434 and accompanying text.


computer software and other copyrighted works. In response to pressure from the U.S. and its other international trading partners, and in recognition of the importance of copyright protection to its own developing software industry, the P.R.C. enacted its first and present copyright law in 1991, and, a year later, acceded to the Berne Convention for the Protection of Literary and Artistic Works ("Berne Convention") and the Universal Copyright Convention ("UCC"). Despite the P.R.C.'s efforts

9. This "pressure" on the P.R.C. has most often been exerted by the U.S. in the form of threats of trade sanctions and restrictions on P.R.C. goods. As early as 1979 the U.S. and the P.R.C. signed the Agreement on Trade Relations, in which the P.R.C. agreed to provide copyright protection to U.S. nationals. See infra notes 31 and 33 and accompanying text. In 1992, under the U.S.-P.R.C. Memorandum of Understanding for the Protection of Intellectual Property, the P.R.C. again agreed to ensure that copyrighted works by U.S. nationals received adequate protection in the P.R.C. and, in addition, promised to accede to the Berne Convention for the Protection of Literary and Artistic Works. See infra note 173 and accompanying text. In recent years, the U.S. has threatened to impose trade sanctions on P.R.C. goods under Section 301 of the Trade Act of 1974 and to block the P.R.C.'s admission to the newly-established World Trade Organization (WTO). See infra notes 434 (discussing the P.R.C.'s status under Section 301) and 423-24 (discussing the U.S. response to the P.R.C.'s application for admission to the WTO).

10. Support for the enactment of a copyright law in the P.R.C. came "primarily from the electronics and computer industries, as well as organizations with a vested interest in developing China's science and technology." Schloss, supra note 5, at 26-27. These groups successfully argued that "without copyright protection, foreign companies [would] not provide China access to vital advanced technology" that would promote the development of the P.R.C.'s own computer industry. Id. at 27. See also ZHENG CHENGSI, CHINESE INTELLECTUAL PROPERTY AND TECHNOLOGY TRANSFER 177 (1987). As early as 1984, "a chief engineer of the Ministry of Electronic Industry," recognizing that adequate copyright protection was needed to support the development of the P.R.C.'s computer and software industries, "called for the establishment of a copyright system in China for the protection of computer software." Id.


to establish a comprehensive system of copyright protection for computer software and other copyrightable works, adequate enforcement of its copyright laws has yet to be achieved.

In the P.R.C., as in the United States, computer software is primarily protected under copyright law. In order to assess the protection of computer software copyright in the P.R.C., this Note analyzes the P.R.C.'s present copyright laws, focusing in particular on the extent and enforcement of software copyright granted to foreign software developers. In light of the fact that the U.S. continues to view copyright protection in the P.R.C. as inadequate, the provisions of the P.R.C.'s copyright laws are compared to corresponding provisions of the U.S. Copyright Act and the Berne Convention to determine whether the prevalence of software piracy in the P.R.C. is attributable to specific inadequacies in its copyright laws. This Note then examines the application of the copyright laws by the P.R.C. courts in cases of software copyright infringement and evaluates recent efforts made by the P.R.C. government to improve the enforcement of its copyright laws. After considering possible solutions to the problem of copyright enforcement in the P.R.C., this Note concludes that copyright protection in the P.R.C. would be most significantly improved if the P.R.C. is admitted to the World Trade Organization (WTO)\(^{13}\) and bound by the requirements of the Agreement on Trade-

Related Aspects of Intellectual Property Rights, Including Trade in Counterfeit Goods ("TRIPS Agreement").

II. AN HISTORICAL OVERVIEW OF COPYRIGHT LAW IN THE P.R.C.

When the Communist Party of the P.R.C. came to power in 1949, China’s long history of copyright protection came to an end. The unauthorized printing of books was prohibited in China as early as 1068 A.D. A few ancient Chinese books even carried copyright marks that gave notice of the authors’s rights in their works by indicating the registration of the books and forbidding their reproduction. China’s first written copyright statute, the Law of the Author’s Right of the Great Qing, was adopted by the government of the Qing Dynasty in 1910. Two succeeding copyright statutes were promulgated prior to the founding of the P.R.C.: the first, by the Northern Warlord Government in 1915; the second, by the Guomindang (Kuomintang) or Nationalist Party Government of the Republic of China in 1928. In 1949, the Communist Party of the P.R.C. entered into power and repealed all of the laws enacted by the Guomindang Government, including its copyright statute.

The new government of the P.R.C. did not enact its own copyright law; however, a year after gaining power it issued the Resolution on the Improvement and Development of Publishing Work ("1950 Resolution"). The 1950 Resolution recognized the rights of authors by specifically providing that “the publishing industry must respect copyrights and the right to publish and must not allow unlawful reproduction, plagiarism, tampering and other acts.” It also provided for a system of per-word and per-copy royalties and, in 1957, the P.R.C. adopted royalty

15. Shoukang, supra note 1, § 1 at 5-7.
16. Id. § 1 at 5.
17. Id.
18. Id. § 1 at 4-5. See also Guo Shoukang, China and the Berne Convention, 11 COLUM.-VLA J.L. & ARTS 121, 122 (1986).
19. Shoukang, supra note 1, § 1 at 4, 6.
20. Id. § 1 at 6.
22. Id. at 261 (quoting the Resolution on the Improvement and Development of Publishing Work (1950)).
regulations to institutionalize this system. The 1950 Resolution ultimately proved ineffective because it lacked administrative and enforcement procedures, and the royalty system it provided for was eliminated, a year after its adoption, when the Anti-Rightist Movement and the Great Leap Forward were launched to accelerate the conversion of the Chinese to socialism.

During the Cultural Revolution, the administrative agencies responsible for publishing were dismantled and the limited system of copyright protection established in the P.R.C. was completely eliminated. Throughout this period, writers were not only deprived of any rights in their works, as intellectuals they were also "cruelly persecuted." Their creative efforts were criticized as "a bourgeois desire for personal fame and gain." Following Mao Tse-Tung’s death in 1976 and the arrests of the leaders of the Cultural Revolution, the P.R.C.’s new government

23. Id. at 263.
24. Id. at 261. The so-called "Dalian Bookstore Incident" clearly demonstrated the "weakness of the 1950 Publishing Resolution and the need for more stringent regulation of and remedies for violations of the rights of authors." Id. at 262. In 1950, after the adoption of the 1950 Resolution, the Dalian Bookstore reproduced 5,000 copies of a work without first obtaining permission from the original publisher. Id. at 263. The original publisher, without recourse to judicial remedies, appealed to the General Publishing Office in Beijing for its assistance. Id. The Publishing Office issued a statement in which it characterized the actions of the Dalian Bookstore as "extremely improper" and asserted that the bookstore "should have first contacted the [original] publisher and asked for its agreement." Id. Apart from this official reprimand, Dalian was not punished for its actions. Id. at 262.
25. Id. at 263.
26. The Cultural Revolution "was initiated in 1966 by Mao [Tse-Tung] ... to revolutionize and rectify the bureaucratic establishment and to impose Maoist values and norms upon the population and society." Thomas Chiu et al., Legal Systems of the P.R.C. 27 (1991).
27. Sidel, supra note 21, at 264.
29. Id.
30. Tao-Tai Hsia et al., People's Republic of China, Chronology 1931-1982, in 4 Constitutions of the Countries of the World 1, 21 (Albert P. Blaustein & Gisbert H. Flanz eds., 1992). Mao Tse-Tung died in Beijing on September 9, 1976. Id. The most important individuals arrested following Mao's death were Wang Hongwen, Zhang Chungiao, Yao Yenyuan, and Mao's widow, Jiang Quin, who comprised the so-called "gang of four." Id. Additionally, large numbers of followers of the "gang" were also removed from their positions in the state and party leadership. Id. at 22. See also Sidel, supra note 21, at 264.
gradually began to introduce market reforms and its open-door policy on trade. With the conclusion of the Sino-American Agreement on Trade Relations in 1979, the process of establishing a copyright system in the P.R.C. began. Although the P.R.C. was obligated under this Agreement to provide copyright protection to U.S. nationals, it would be another twelve years before foreign authors would receive any form of copyright protection in the P.R.C. The P.R.C. adopted numerous administrative regulations regarding the rights of authors during the 1980s, but it was not until 1985, when the National Copyright Administration (NCA) was established, that the drafting of the P.R.C.’s present copyright law began. Five years and more than twenty drafts later, the P.R.C.’s first copyright law was adopted.

33. Agreement on Trade Relations, supra note 31, art. 6(5) at 4658. Article 6, section 5 of the Agreement provides that both Contracting Parties agree that each Party shall make appropriate measures, under its laws and regulations and with due regard to international practice, to ensure to legal or natural persons of the other Party protection of copyrights equivalent to the copyright protection correspondingly accorded by the other Party. Id. See also Liu Song, On the Scope of Application of the Chinese Copyright Law, CHINA PAT. & TRADEMARKS Q., July 1991, at 44, 44-45.
34. Copyright Law, supra note 1, at 26. Until the enactment of the Copyright Law in 1990, copyright protection in the P.R.C. was without any statutory basis.
35. Various administrative regulations granting limited copyright protection to authors were adopted in the 1980s, including the Provisional Regulations on Remunerations for Book-Writing (1980) and the Trial Implementing Rules Concerning Remuneration for Book-Writing (1984). See the Provisional Regulations on Remunerations for Book-Writing, reprinted in 19 COPYRIGHT 137 (1983); CHENGSI, supra note 10, at 97 (discussing the 1984 Trial Implementing Rules Concerning Remuneration for Book-Writing).
38. Copyright Law, supra note 1, at 26.
III. THE COPYRIGHT LAW AND THE COMPUTER SOFTWARE PROTECTION REGULATIONS

As the drafting of a copyright law began, the question of how computer software should be afforded legal protection became a matter of great debate in the P.R.C. In the course of this debate, three separate options for protecting computer software were considered: extending protection to computer software under the P.R.C. Patent Law, including software as a copyrightable subject matter in the new copyright law; or enacting separate regulations that would provide copyright protection to computer software but take into account its special characteristics. Even after it was determined that computer software could not be protected under the P.R.C. Patent Law, copyright experts in the P.R.C. failed to agree that computer software should receive protection under copyright law. Many experts continued to advocate special treatment for computer software in the form of separate copyright regulations or sui generis legislation similar to the Model Provisions on the Protection of Computer Software adopted by the World Intellectual Property Organization.

39. Shoukang, supra note 1, § 2 at 19. See also Zheng Chengsi, Industrial Copyright—Arriving at the Same Destination of Software Protection by Different Routes, CHINA PAT. & TRADEMARKS Q., Apr. 1990, at 60, 60.


41. Shoukang, supra note 1, § 2 at 19. See also Liu Gusbu, Questions of World-Wide Interest in Connection with the Chinese Copyright Law, CHINA PAT. & TRADEMARKS Q., Apr. 1991, at 21, 23.

42. Shoukang, supra note 1, § 2 at 19 (noting that the P.R.C. Patent Law had no provision for the protection of computer software). See Hon Liu & Jun Wei, Technology Transfer to China: The Patent System, 5 SANTA CLARA COMPUTER & HIGH TECH. L.J. 363, 384 (1989) (concluding that Article 25 of the P.R.C. Patent Law “can be construed to imply that patent protection for computer software is denied . . . as ‘rules and methods of mental activities.’”).


44. Shoukang, supra note 1, § 2 at 18. See also Chengsi, supra note 39, at 60, 62.

The P.R.C. ultimately chose to include computer software as a copyrightable subject matter in the Copyright Law and to enact separate regulations to specifically govern its protection.

In general, the Copyright Law protects the copyrights and "interests of authors of literary, artistic, and scientific works." Unlike the U.S. Copyright Act, which does not expressly include computer software among the categories of copyrightable subject matters, the P.R.C. Copyright Law specifically recognizes computer software as a work eligible for copyright protection. As a result, while computer programs receive broad protection as literary works under the U.S. Copyright Act, the Copyright Law does not protect computer programs as literary works.


49. Copyright Law, supra note 1, art. 1 at 26.

50. 17 U.S.C. § 102(a) (1994). Although computer software is not included among the categories of copyrightable subject matters listed in Section 102(a), the list is introduced by the words "[w]orks of authorship include . . ." and is not intended to be exhaustive. Id. The Copyright Act stipulates that "[t]he terms 'including' and 'such as' are illustrative and not limitative." Id. § 101.

51. Copyright Law, supra note 1, art. 3(viii) at 27.

52. In 1980, Section 101 of the 1976 Copyright Act was amended to include a definition of computer programs. Act of December 12, 1980, Pub. L. No. 96-517, § 101(b), 94 Stat. 3028 (codified as amended at 17 U.S.C. § 101 (1980)). Section 102(a) of the Copyright Act has not been amended to include a separate category for computer programs among the categories of copyrightable subject matters. As a result, computer programs are copyrightable and receive protection as literary works. See H. R. Rep. No. 1476, 95th Cong., 2d Sess. 54 (1976), reprinted in 1976 U.S.C.C.A.N. 5659, 5667 ("'literary works' . . . includes . . . computer programs . . .").

Although the Implementing International Copyright Treaties Provisions ("Copyright Treaties Provisions"),\(^{54}\) adopted following the P.R.C.'s accession to the Berne Convention, stipulate that foreign software is protected under the category of "literary works,"\(^{55}\) the Copyright Law, as enacted, does not provide protection to or grant rights in computer programs as literary works.\(^{56}\) Instead, pursuant to Article 53 of the Copyright Law,\(^{57}\) computer programs receive protection under the Computer Software Protection Regulations ("Software Regulations").\(^{58}\)

The Software Regulations, although formulated in accordance with the Copyright Law, are a distinct set of rules governing the protection and enforcement of copyright in computer software. The stated purposes of the Software Regulations are to protect the rights and interests of owners of copyright in computer software, to regulate the interests of parties arising in the course of the development, dissemination, and use of computer software, to encourage the development and circulation

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54. The Implementing International Copyright Treaties Provisions, P.R.C. State Council (1992), translated in CHINA L. & PRAC., Jan. 1993, at 36, 36 [hereinafter Copyright Treaties Provisions]. The Copyright Treaties Provisions were adopted by the State Council on September 25, 1992 and took effect on September 30, 1992. Id. Article 3 of the Copyright Treaties Provisions stipulates that the term "international copyright treaties" refers to the Berne Convention and bilateral copyright agreements between the P.R.C. and foreign countries. Id. The Copyright Treaties Provisions do not specifically apply to the UCC, which the P.R.C. acceded to in the same month it acceded to the Berne Convention, because the Copyright Law, as enacted, was viewed as conforming with its requirements. See Zheng Chengsi, The Chinese Copyright System and Three Relevant Copyright Conventions, COPYRIGHT WORLD, Dec. 1992-Jan. 1993, at 33, 33.

55. Copyright Treaties Provisions, supra note 54, art. 7 at 37. This inconsistency may have resulted from the uncertain status of computer software under the Berne Convention itself. Computer programs are not specifically included among the examples of works to be protected as "literary and artistic works" under the Berne Convention. Berne Convention, supra note 11, art. 1 at 1. The P.R.C. may have reclassified computer programs as literary works either to ensure its full compliance with the Berne Convention or in response to criticism from the international community that the Copyright Law and Software Regulations did not provide adequate protection to foreign computer software.

56. Copyright Law, supra note 1, art. 3 at 26-27. Literary works and computer software are listed separately under Articles 3(i) and 3(viii), respectively, of the Copyright Law. Id.

57. Id. art. 53 at 42. The Copyright Law provides that "procedures for the protection of computer software shall be formulated separately by the State Council." Id.

58. Software Regulations, supra note 48, art. 1 at 55.
of computer software, and to promote the development of computer applications industries.\footnote{Id.}

Except for the shorter term of protection granted to computer software\footnote{Id. art. 15 at 59 (twenty-five years with a possible renewal term of twenty-five years).} and the requirement that it be fixed in a tangible medium of expression\footnote{Id. art. 5 at 56.} to be eligible for copyright protection, computer software receives essentially the same protection under the Software Regulations as other copyrightable works are entitled to receive under the Copyright Law.\footnote{The Copyright Law does not expressly require fixation and extends copyright protection to oral works which are, by definition, not fixed. Copyright Law, supra note 1, art. 3(ii) at 27. The duration of copyright protection under the Copyright Law is equal to the life of the author plus fifty years. Id. art. 21 at 31.}

Copyright protection of computer software in the P.R.C. is derived from five different sources of law: the Copyright Law and the Implementing Regulations to the Copyright Law ("Implementing Regulations"), both of which took effect in 1991;\footnote{Copyright Law, supra note 1, at 26; the Implementing Regulations to the Copyright Law, P.R.C. State Council (1991), translated in CHINA L. & PRAC., July 1991, at 28, 28 [hereinafter Implementing Regulations]. The Implementing Regulations were adopted and took effect with the Copyright Law on June 1, 1991. Id. Under the P.R.C. Constitution, the State Council and its agencies, as well as local people’s congresses and authorities, are empowered to issue rules and regulations to implement and provide specific guidelines for the administration of laws enacted by the National People’s Congress (NPC) and the Standing Committee of the NPC (SCNPC). The Constitution of the People’s Republic of China [XIANFA], 5th Nat’l People’s Cong., 5th Sess. (1982), arts. 89(1), 90, 100 (P.R.C.), translated in 4 CONSTITUTIONS OF THE COUNTRIES OF THE WORLD 35, 54-55, 57 (Albert P. Blaustein & Gisbert H. Flanz, eds., 1992) [hereinafter P.R.C. Constitution].} the Software Regulations, which were enacted and took effect in 1991;\footnote{Software Regulations, supra note 48, at 55.} the Procedures for the Registration of Computer Software ("Registration Procedures"), published in 1992;\footnote{The Procedures for the Registration of Computer Software (1992), translated in CHINA PAT. & TRADEMARKS Q., July 1992, at 89, 89. [hereinafter Registration Procedures]. The Registration Procedures were published and took effect on April 18, 1992. See The Registration of Copyright in Computer Software, CHINA CURRENT LAWS, June 1992, at 28, 28. The Registration Procedures were drafted by the Ministry of Machinery and Electronics. Id.} and, finally, the Copyright Treaties Provisions,
enacted in 1992 upon the P.R.C.'s accession to the Berne Convention. Although the Copyright Treaties Provisions were enacted to implement the Berne Convention and other bilateral copyright agreements in the P.R.C., the Berne Convention, under the P.R.C. General Principles of Civil Law ("General Principles"), is a justiciable source of law. The General Principles provide that where inconsistencies exist between domestic law and an international treaty, the treaty provisions prevail. In accordance with the General Principles, the Copyright Treaties Provisions, which supersede any conflicting provisions in the Copyright Law and the Software Regulations, are superseded by the provisions of the Berne Convention or of any bilateral copyright agreement between the P.R.C. and a foreign country. Many of the inconsistencies that exist between the Copyright Law and the Software Regulations, or between these laws and international copyright treaties or agreements, were therefore either eliminated upon the P.R.C.'s accession to the Berne Convention or expressly amended by the Copyright Treaties Provisions.

66. Copyright Treaties Provisions, supra note 54, at 36.
68. International treaties acceded to by China "automatically become a part of Chinese law." Chengsi, supra note 54, at 34. With the exception of treaty articles to which China has declared its reservations, an international treaty "becomes part of the domestic law of China without having to be transformed from international law into domestic law through legislation." Zheng Chengsi, Special Features, Merits and Shortcomings of China's Laws for Intellectual Property Protection (Pt. II), CHINA PAT. & TRADEMARKS Q., Apr. 1994, at 16, 16-17. In contrast, the Berne Convention was declared by the U.S. Congress not to be self-executing and U.S. accession to the Berne Convention required implementing legislation. Berne Convention Implementation Act of 1988, Pub. L. No. 100-568, 102 Stat. 2859 (1988). Following the U.S. Senate's ratification of the Berne Convention on October 28, 1988, the Berne Convention Implementation Act was enacted to amend the 1976 Copyright Act. Id.
69. Article 142 of the General Principles stipulates that [i]f any international treaty concluded or acceded to by the People's Republic of China contains provisions differing from those in the civil laws of the People's Republic of China, the provisions of the international treaty shall apply, unless the provisions are ones on which the People's Republic of China has announced reservations. General Principles, supra note 67, at art. 142.
70. Copyright Treaties Provisions, supra note 54, art. 19 at 38.
A. Subject Matter and Scope of Protection

The Copyright Law expressly includes computer software as a copyrightable subject matter. Computer software, as defined by the Software Regulations, includes both "computer programs and their related documentation." The Software Regulations define a computer program as "a coded instruction sequence, or a symbolic instruction sequence or symbolic statement sequence automatically convertible to a coded instruction sequence that can be executed by a devise capable of processing information, such as a computer and other such devices, where the purpose of such sequence is to achieve a certain result." This definition, although similar to the U.S. Copyright Act's definition of a computer program, clearly establishes, as case law has in the U.S., that copyright protection extends to both the source and object code of a computer program. Documentation, as included within the Software

71. Copyright Law, supra note 1, art. 3(viii) at 27.
72. Software Regulations, supra note 48, art. 2 at 55. The definition of computer software adopted by the P.R.C. is similar to that found in the WIPO Model Provisions. The WIPO Model Provisions define computer software as consisting of a computer program, its detailed program description ("a complete procedural presentation in verbal, schematic or other form, in sufficient detail to determine a set of instructions constituting the corresponding computer program"), and supporting materials created to aid in the understanding or application of the program, such as user instructions and manuals. WIPO Model Provisions, supra note 45, § 1 at 12.
73. Software Regulations, supra note 48, art. 3(i) at 55.
74. 17 U.S.C. § 101 (1994). The U.S. Copyright Act defines a computer program as "a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result." Id.
76. Software Regulations, supra note 48, art. 3(i) at 55. The "instructions" of a computer program may be written in "low-level" machine language or "high-level" assembly language. Instructions in machine language, a binary language using "1" and "0" symbols, are referred to as written in "object code." Although computers can only recognize programs written in object code, high-level computer languages, using either assembly language or English-like words and syntax, are easier for humans to learn and use. Instructions written in assembly or high-level language are referred to as written in "source code." Programs written in source code must then be translated into object code by another computer program, either an "assembler" (where the instructions are written in assembly language) or a "compiler," to be used in a computer. See Note, Copyright Protection of Computer Program Object Code, 96 HARV. L. REV. 1723, 1724-25 (1983).

The Software Regulations specifically define computer programs to "include source code programs and object code programs." Software Regulations, supra note 48, art. 3(i) at 55. Although the U.S. Copyright Act does not distinguish between programs written...
Regulation's definition of computer software, refers to diagrams and written materials used to describe the content, function, or usage of the program, including user manuals and flow charts. Such documentation receives protection in its own right under the U.S. Copyright Act and is, in principle, also eligible to receive copyright protection under the P.R.C. Copyright Law.

The Software Regulations define the "protection of software" as "the enjoyment by software copyright owners or their assignees of the various software copyright rights," however, the scope of computer program copyright protection in the P.R.C. depends upon the distinction drawn between the idea of a computer program and its particular expression. In the P.R.C., as in the U.S., computer software copyright protects the expression of a computer program's idea, but not the idea itself. Like the U.S. Copyright Act, the Software Regulations stipulate that copyright in computer software does not extend to "ideas, concepts, discoveries, principles, algorithms, processing methods, [or] operation methods used in the development of the software." This statutory exclusion indicates that the scope of copyright protection for computer programs under the

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77. Software Regulations, supra note 48, art. 3(ii) at 55. Documentation is defined as "written information and diagrams written in natural or formal language used to describe the contents, composition, design, function specifications, development ideas, test results and method of use of a program, such as program design explanations, flow diagrams and user's manuals." Id.


79. Copyright Law, supra note 1, art. 3(viii) at 27; Software Regulations, supra note 48, arts. 2, 3(ii) at 55. Copyright experts in the P.R.C. have asserted that documentation should be defined and protected as written or literary works under the Copyright Law. See Shoukang, supra note 1, § 2 at 20.

80. Software Regulations, supra note 48, art. 4 at 56.

81. Id. art. 7 at 56, art. 31 at 63-64.

82. The U.S. Copyright Act provides that "in no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such a work." 17 U.S.C. § 102(b) (1994).

83. Software Regulations, supra note 48, art. 7 at 56.
Software Regulations will be determined on a case-by-case basis through application of the idea-expression dichotomy.\textsuperscript{84} In distinguishing between the idea of a computer program and its expression, U.S. courts have focused "on whether the idea is capable of various modes of expression."\textsuperscript{85} This inquiry is essentially an application of the merger doctrine, under which an idea and its expression are said to "merge" when there are "no or few other ways of expressing a particular idea."\textsuperscript{86} In general, where more than one method of expressing the idea of a program exists, U.S. courts have held that the particular expression selected to express the program's idea is copyrightable.\textsuperscript{87} Applying this analysis, U.S. courts have extended copyright protection to application and operating system programs,\textsuperscript{88} and to program structure, sequence, and organization\textsuperscript{89} where more than one method of expression was capable of performing the same function. Although no court has expressly applied the idea-expression dichotomy or the merger doctrine in any of the copyright infringement cases that have been decided in the P.R.C., the Software Regulations contain a concept similar to the merger doctrine that restricts the scope of computer software copyright where there is a "limit to the available forms of expression."\textsuperscript{90} The scope of software copyright protection is likely to depend upon how broadly or narrowly the word

\textsuperscript{84} 17 U.S.C. § 102(b) (1994). Section 102(b) of the Copyright Act is regarded as a codification of the idea-expression dichotomy, first recognized by the U.S. Supreme Court in \textit{Baker v. Selden}, 101 U.S. 99 (1879). \textit{Baker v. Selden}, as read by the Court in \textit{Mazer v. Stein}, established that copyright "... protection is given only to the expression of the idea—not the idea itself." 347 U.S. 201, 217 (1954).


\textsuperscript{86} \textit{Apple Computer}, 714 F.2d at 1253.

\textsuperscript{87} \textit{Id.}

\textsuperscript{88} \textit{Id.} The court in \textit{Apple Computer} distinguished application and operating system programs as follows:

\textsuperscript{89} \textit{Whelan Assocs.}, 797 F.2d at 1239 (concluding that a computer program's overall or primary function is its idea and that its structure, sequence, and organization are protectable expression).

\textsuperscript{90} Software Regulations, \textit{supra} note 48, art. 31(iii) at 64.
“limit” is interpreted; however, P.R.C. courts applying this provision of the Software Regulations should reach results similar to those reached by U.S. courts. If a P.R.C. court finds that other methods of expressing a program’s idea are very limited or unavailable, it should also find that the program’s expression has merged with its idea and that it does not qualify as copyrightable subject matter.

B. Creation of Copyright and Criteria for Protection

Copyright in works that are created by P.R.C. citizens or entities and eligible for protection under the Copyright Law “arises on, and is protected . . . from[,] the date on which creation of the work is completed.”91 Copyright in a foreign work does not arise upon its creation but upon its first or simultaneous publication in the P.R.C.92 In accordance with the provisions of the Copyright Law and the Implementing Regulations, the Software Regulations provide copyright protection to software developed by P.R.C. citizens or entities as soon as it is developed and fixed in a tangible medium of expression, but deny copyright protection to foreign software until it is first or simultaneously published in the P.R.C.93 The status of unpublished foreign software is not clarified by the Copyright Treaties Provisions, which fail to expressly extend copyright protection to unpublished foreign software94 and stipulate that the term of copyright protection for foreign software is measured from the date of first publication.95 Under the “national treatment” principle of the Berne Convention,96 however, foreign software should receive

91. Implementing Regulations, supra note 63, art. 23 at 35.
92. Id.; Copyright Law, supra note 1, art. 2 at 26. The Implementing Regulations provide that copyright in a foreign work arises on and is protected from the original publication date of the work in the P.R.C. Implementing Regulations, supra note 63, art. 25 at 35.
93. Software Regulations, supra note 48, art. 6 at 56.
94. Article 5 of the Copyright Treaties Provisions explicitly provides that “the Copyright Law shall apply to the term of protection of unpublished foreign works.” Copyright Treaties Provisions, supra note 54, art. 5 at 36. Because computer software is recognized as a copyrightable subject matter but is not protected under the Copyright Law, it is not clear whether Article 5 of the Copyright Treaties Provisions applies to unpublished foreign computer software. However, Article 7 of the Copyright Treaties Provisions does extend copyright protection to computer programs as “literary works.” Id. art. 7 at 37. A foreign computer program should therefore be considered an “unpublished foreign work” under Article 5 of the Copyright Treaties Provisions and receive protection under the Copyright Law from the date of its creation and fixation.
95. Id. art. 7 at 37.
96. Berne Convention, supra note 11, art. 5(1) at 2. The “national treatment
copyright protection, as does software created by citizens of the P.R.C., once it is developed and fixed in a tangible medium of expression.\textsuperscript{97}

Computer software is eligible for copyright protection if it meets the two requirements imposed by the Software Regulations, independent development or originality and fixation.\textsuperscript{98} To be copyrightable under both the Copyright Law and the Software Regulations, a work must possess originality. A copyrightable work under the Copyright Law is one that has been "created."\textsuperscript{99} The Implementing Regulations define creation as "intellectual activity that directly produces literary, artistic or scientific works."\textsuperscript{100} The term "works," as it is used in the Copyright Law, is also defined in the Implementing Regulations and refers to original intellectual creations.\textsuperscript{101} Although originality is not expressly required by the Copyright Law, these provisions of the Implementing Regulations, in effect, require that works possess originality to qualify for protection under the Copyright Law. The Software Regulations require only that computer programs be "independently developed."\textsuperscript{102} Depending on the interpretation of this term, independent development could be an additional requirement, specific to computer software, or sufficient to satisfy the requirement of originality imposed under the Implementing Regulations.\textsuperscript{103}

In addition to the requirement of originality and/or independent development, computer software is also subject to a requirement of fixation. Unlike the Copyright Law, which does not uniformly require fixation for copyright protection,\textsuperscript{104} the Software Regulations expressly

\textsuperscript{97} Software Regulations, \textit{supra} note 48, art. 5 at 56.

\textsuperscript{98} Id.

\textsuperscript{99} Copyright Law, \textit{supra} note 1, art. 3 at 26-27.

\textsuperscript{100} Implementing Regulations, \textit{supra} note 63, art. 3 at 28. Article 3 further stipulates that "conducting organizational work, giving advice or comments, providing material conditions or performing other support activities in respect to creation of the works by others shall not be regarded as creation." \textit{Id.}

\textsuperscript{101} \textit{Id.} art. 2 at 28.

\textsuperscript{102} Software Regulations, \textit{supra} note 48, art. 5 at 56.

\textsuperscript{103} Implementing Regulations, \textit{supra} note 63, arts. 2-3 at 28.

\textsuperscript{104} Copyright Law, \textit{supra} note 1, art. 3(ii) at 27. Oral works, defined as "works
require computer programs to be fixed in a tangible medium of expression.\textsuperscript{105} The Software Regulations do not provide examples of fixation that would satisfy this requirement, and although the Copyright Law imposes no such requirement, the Implementing Regulations define a copyrightable work as one that "can be reproduced in a tangible form."\textsuperscript{106} Software that is internally stored in the read-only memory (ROM) of a computer or externally stored on a floppy disk or CD-ROM would presumably satisfy the fixation requirement because such software would be fixed in a tangible medium of expression and capable of being reproduced in a tangible form. The fixation requirement, in addition to representing a difference between the requirements of copyright imposed under the Copyright Law and the Software Regulations, represents a key difference between the requirements of the Copyright Law and those of the U.S. Copyright Act. While fixation is only selectively required under the Copyright Law,\textsuperscript{107} it is, in addition to originality, a fundamental requirement of copyright imposed on all works under the U.S. Copyright Act.\textsuperscript{108}

In the case of foreign works or software, the Copyright Law and the Software Regulations impose the further requirement of publication.\textsuperscript{109} Although both published and unpublished computer programs created by P.R.C. citizens or entities are entitled to receive copyright protection,\textsuperscript{110} the Software Regulations stipulate that only foreign software first or simultaneously published in the P.R.C. is eligible for copyright

\textsuperscript{105} Software Regulations, \textit{supra} note 48, art. 5 at 56.

\textsuperscript{106} Implementing Regulations, \textit{supra} note 63, art. 2 at 28.

\textsuperscript{107} Software Regulations, \textit{supra} note 48, art. 5 at 56 (requiring computer programs to be fixed in a tangible medium of expression); \textit{cf.} Copyright Law, \textit{supra} note 1, art. 3(ii) at 27 (granting copyright protection to oral works that are not fixed).

\textsuperscript{108} 17 U.S.C. § 102(a) (1994). "Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression." \textit{Id.}

\textsuperscript{109} Copyright Law, \textit{supra} note 1, art. 2 at 26; Software Regulations, \textit{supra} note 48, art. 6 at 56.

\textsuperscript{110} Unpublished software developed by Chinese citizens or entities is expressly protected under Article 6 of the Software Regulations: "Software developed by citizens and work units [state-run entities] of China shall enjoy copyright under these Regulations, regardless of whether it is published . . . ." Software Regulations, \textit{supra} note 48, art. 6 at 56.
First published is not defined in the Copyright Law or the Software Regulations; however, the Implementing Regulations include a provision for simultaneous publication, under which a foreign work published in the P.R.C. within thirty days of its first publication elsewhere will be "deemed to be published in China first." Because both the Copyright Law and the Software Regulations provide copyright protection to works or software created by foreign authors "in accordance with agreements between their countries and China or in accordance with international treaties acceded to by both their country and China," and the Berne Convention expressly provides for simultaneous publication, foreign software that is simultaneously published in a country that is a signatory to the Berne Convention and the P.R.C. should be entitled to receive copyright protection in the P.R.C.

This publication requirement, because it only applies to foreign works, clearly violates the basic national treatment principle of the Berne Convention. Although the Berne Convention also requires that unpublished foreign works receive copyright protection, the Copyright Law, as enacted, does not extend copyright protection to unpublished foreign works. The Copyright Treaties Provisions eliminate this violation of the Berne Convention by explicitly stipulating that such works are protected under the Copyright Law. The Copyright Treaties Provisions do not expressly extend copyright protection to unpublished foreign software; however, because the Copyright Treaties Provisions

111. Id.
112. Implementing Regulations, supra note 63, art. 25 at 35.
113. Copyright Law, supra note 1, art. 2 at 26; Software Regulations, supra note 48, art. 6 at 56.
114. Berne Convention, supra note 11, art. 3(1)(b) at 2. Article 3(1)(b) stipulates that "a work shall be considered as having been published in several countries if it has been published in two or more countries within thirty days of its first publication." Id. Most Berne Union countries, under this article, define "first published" as published within thirty days of the original date of publication. Schloss, supra note 5, at 25.
116. Berne Convention, supra note 11, art. 5(1) at 2.
117. Article 3(1)(a) of the Berne Convention provides that protection under the Convention "shall apply to: (a) authors who are nationals of one of the countries of the Union, for their works, whether published or not[.]" Id. art. 3(1)(a) at 2.
118. Copyright Law, supra note 1, art. 2 at 26 (granting copyright protection to works by foreign authors that are "published").
119. Copyright Treaties Provisions, supra note 54, art. 5 at 36.
provide that foreign computer programs receive protection as literary works, an unpublished computer program should, as an unpublished literary work, receive protection under the Copyright Law.

C. Ownership, Registration, and Duration of Copyright

Like the U.S. Copyright Act, the P.R.C. Copyright Law provides that ownership of the copyright in a work vests in its author or authors. The Software Regulations provide that copyright in computer software vests in and is owned by the software developer or developers, where the software is jointly-developed. The term software developer, as used in the Software Regulations, refers either to an entity that organizes, carries out, and provides the facilities for the development of the software and bears responsibility for it, or to an individual who independently develops the software, using his or her own facilities, and bears responsibility for it. Although the copyright owner will often be the software developer, in the form of an individual or entity, ownership of copyright in computer software is further qualified by provisions in the

120. Id. art. 7 at 37.
122. Copyright Law, supra note 1, arts. 11, 13 at 29. See also Rengan, supra note 1, at 56.
123. Software Regulations, supra note 48, art. 3(iv) at 56, art. 10 at 57.
124. Id. art. 11 at 57-58. Article 11 of the Software Regulations provides that "[u]nless otherwise agreed, copyright in software jointly developed... shall be jointly owned by the co-developers. Co-developers shall exercise their copyrights in their software in accordance with prior written agreements." Id. Where there is no written agreement regarding the ownership and exercise of the copyright in jointly-developed software and the "software is divisible and each part can be used separately, each developer may hold separate copyright in the part" he or she developed, provided that the exercise of such rights does not extend to the copyright in the jointly developed software as a whole. Id. Where the software cannot be divided into separate usable parts, the co-developers must agree on the exploitation and use of the software; if they fail to do so, either developer can exercise any right, except for the right to assign, so long as the benefits obtained from such use are reasonably distributed among the co-developers. Id. at 58. In contrast, the U.S. Copyright Act defines a "joint work" as one "prepared by two or more authors with the intention that their contributions be merged into inseparable or interdependent parts of a unitary whole." 17 U.S.C. § 101 (1994).
125. Software Regulations, supra note 48, art. 3(iii) at 56. Article 94 of the General Principles provides that "citizens and legal persons enjoy rights of authorship (copyrights) and shall be entitled to sign their names as authors, issue and publish their works and obtain remuneration in accordance with the law." General Principles, supra note 67, at art. 94.
Software Regulations governing the ownership of software created within the scope of employment or on a commissioned basis.\textsuperscript{126}

The concept of works made for hire, as it appears in the Copyright Law and the Software Regulations, is narrower in scope than it is under the U.S. Copyright Act.\textsuperscript{127} Under the U.S. Copyright Act, a work made for hire is either "a work prepared by an employee within the scope of his or her employment" or "a work specially ordered or commissioned," under a written agreement, that is within one of the nine categories of works enumerated in the Copyright Act.\textsuperscript{128} In contrast, the Copyright Law and Software Regulations provide that a work made for hire refers only to "occupational works" created in the course of employment.\textsuperscript{129} Under the U.S. Copyright Act, where a work is made for hire during the course of employment, ownership "of the rights comprised in the copyright" vests in the employer.\textsuperscript{130} Under the Software Regulations, an employer owns the copyright in software developed by an employee only when the employee develops the software "during the course of the performance of his [or her] duties, i.e., where such software is developed to achieve an expressly designated development objective of [the employee's] job . . . ."\textsuperscript{131} If software developed by an employee "is not the result of the performance of his [or her] duties and [is] not directly connected with the work performed for the employer," copyright in the software is owned by the employee who developed it.\textsuperscript{132} Provided that the employee has not

\textsuperscript{126} Software Regulations, supra note 48, arts. 12-14 at 58.


\textsuperscript{128} 17 U.S.C. § 101 (1994). Section 101 defines "a work made for hire" as (1) a work prepared by an employee within the scope of his or her employment; or (2) a work specially ordered or commissioned for use as a contribution to a collective work, as a part of a motion picture or other audiovisual work, as a translation, as a supplementary work, as a compilation, as an instructional text, as a test, as answer material for a test, or as an atlas, if the parties expressly agree in a written instrument signed by them that the work shall be considered a work made for hire.

\textit{Id.}

\textsuperscript{129} Copyright Law, supra note 1, art. 16 at 30-31; Software Regulations, supra note 48, art. 14 at 58-59.

\textsuperscript{130} 17 U.S.C. § 201(b) (1994).

\textsuperscript{131} Software Regulations, supra note 48, art. 14 at 58-59.

\textsuperscript{132} \textit{Id.}
used his or her employer's material or technical resources\textsuperscript{133} in developing the software, the software copyright vests in the employee-developer.\textsuperscript{134}

Ownership of copyright in software developed in the P.R.C. on a commissioned basis is not determined by the nature of the work or under the concept of works made for hire as it appears in the Software Regulations. Instead, the Software Regulations provide that ownership of the copyright in commissioned software is determined by the written agreement between the commissioning and commissioned parties.\textsuperscript{135} In the absence of a written agreement between the parties, or where an agreement does not expressly provide for ownership of the software copyright, the copyright is owned by the commissioned party.\textsuperscript{136} Because the U.S. Copyright Act includes commissioned works within concept of works made for hire,\textsuperscript{137} copyright in commissioned software is owned by the commissioning party, unless the commissioned and commissioning "parties have expressly agreed otherwise in a written instrument signed by them . . . ."\textsuperscript{138} The U.S. Copyright Act provides that "in the case of a work made for hire, the employer or other person for whom the work was prepared is considered the author . . . and, unless the parties have expressly agreed otherwise in a written instrument[,] . . . owns all of the rights comprised in the copyright."\textsuperscript{139} Although the work for hire provisions of U.S. Copyright Act, when compared to the corresponding provisions of the Software Regulations, appear less favorable to the employee or commissioned developer, the Software Regulations' work for hire provision, governing software created in the course of employment, is likely to be strictly applied\textsuperscript{140} and both the U.S. Copyright Act and the Software Regulations allow the parties to determine ownership of the copyright in commissioned software by written agreement.\textsuperscript{141}

\textsuperscript{133} Id. The Implementing Regulations define the term "material and technical resources" as "funds, equipment, or materials provided exclusively for creation." Implementing Regulations, supra note 63, art. 15 at 34.

\textsuperscript{134} Software Regulations, supra note 48, art. 14 at 58-59.

\textsuperscript{135} Id. art. 12 at 58.

\textsuperscript{136} Id.


\textsuperscript{138} Id. at § 201(b).

\textsuperscript{139} Id.

\textsuperscript{140} A similar work for hire provision in the Copyright Law has been strictly applied by the P.R.C. courts. See, e.g., Beijing Mun. Jewellery Factory v. Ceng Yibelng and Zhuhai Mun. Jadeite Gem Jewellery Co. Ltd., discussed in Case Digest, Copyright of Jewellery Design Upheld, CHINA L. & PRAC., Jan. 1994, at 22, 22 (holding that the employer owned the copyright in an ornament designed by an employee).

\textsuperscript{141} Software Regulations, supra note 48, art. 14 at 58-59; 17 U.S.C. § 201(b)
Copyright registration, although not available under the Copyright Law for copyrighted works in general,142 is specifically provided for under the Software Regulations.143 Registration is not required for the enjoyment of copyright in computer software;144 however, the Software Regulations as enacted stipulate that registration is "a precondition for filing a request for administrative disposition of, or for instituting legal proceedings for," any infringement dispute.145 Because a software copyright owner may only bring a copyright infringement action after he or she has obtained a copyright registration, copyright protection under the Software Regulations is, in effect, dependant on the formality of registration. This registration requirement, at least as applied to foreign software, is inconsistent with the Berne Convention, which prohibits the imposition of "formalities" as a condition to copyright protection.146 In order to eliminate this formality from the U.S. Copyright Act, which required copyrights in all works to be registered before an infringement action could be brought,147 the U.S. amended its Copyright Act to exclude works first published in or whose authors are nationals of a country adhering to the Berne Convention from this registration requirement.148 The P.R.C. eliminated the registration requirement for foreign computer software in the Copyright Treaties Provisions.149 Although the P.R.C. and the U.S., in order to comply with the provisions of the Berne Convention, eliminated registration requirements for foreign software and works, both countries still require their own citizens to register a work before an infringement action may be brought.150

(1994).

142. With the exception of works of folklore and computer software, registration is neither required nor even available under the Copyright Law. Chengsi, supra note 32, at 377.

143. Software Regulations, supra note 48, arts. 23-29 at 61-63.

144. Id. art. 23 at 61. Applications for registration "may be filed," but registration of copyright in computer software is not required. Id. See also Copyright Treaties Provisions, supra note 54, art. 7 at 37.


146. Berne Convention, supra note 11, art. 5(2) at 2-3.


149. Copyright Treaties Provisions, supra note 54, art. 7 at 37 (providing that "foreign computer programs . . . shall not require registration"). See also Registration Procedures, supra note 65, art. 5 at 89.

150. See 17 U.S.C. § 411(a) (1994); Software Regulations, supra note 48, art. 24 at
Although registration is no longer required to enforce a copyright in foreign software in the P.R.C., it may be recommended for evidentiary purposes. As in the U.S., a certificate of copyright registration in the P.R.C. constitutes prima facie evidence of the validity of the copyright in the software. Applications for software copyright registration that are voluntarily filed by foreign copyright owners must be completed in accordance with the Registration Procedures and submitted to the China Software Registration Center ("Registration Center"). Under the Registration Procedures, a registration application must be filed, in Chinese or accompanied by a Chinese translation, for each piece of software and include a software registration form, supporting documents, and identifying materials. Supporting documents must be submitted that verify the identity of the individual or entity filing for registration and establish copyright ownership. The identifying materials that must be included with each application include the first, middle, and last twenty consecutive pages of the copyrighted program's source code. Exceptional deposit is available upon written request where the program contains trade secrets or other confidential information that the applicant does not wish to disclose. Although the U.S. Copyright Office also

61-62. Under section 411(a) of the U.S. Copyright Act, U.S. authors are still required to register works with the Copyright Office before an infringement suit can be brought. 17 U.S.C. § 411(a) (1994). Registration is also required under Section 412 of the U.S. Copyright Act before statutory damages or attorney's fees may be awarded. Id. § 412.

152. Software Regulations, supra note 48, art. 24 at 62.
153. Registration Procedures, supra note 65, at 89. The Registration Procedures were published by the Ministry of Machine Building and Electronics Industry pursuant to Article 25 of the Software Regulations. Software Regulations, supra note 48, art. 25 at 62.
154. The China Software Registration Center, the "organization for the administration of software registration" provided for in Articles 23 and 24 of the Software Regulations, is responsible for the registration of computer software copyright in the P.R.C. Software Regulations, supra note 48, arts. 23-24 at 61-62; Registration Procedures, supra note 65, art. 6 at 89.
155. Registration Procedures, supra note 65, art. 22 at 91.
156. Id. art. 7 at 89.
157. Id. art. 9 at 89.
158. Id. art. 10 at 89-90.
159. Id. art. 12 at 90. Where the program source code is less than sixty printed pages in length, the entire source code must be submitted. Id.
160. Software Regulations, supra note 48, art. 12 at 58.
requires source code to be submitted with an application for software registration and provides similar exceptions for software containing trade secrets. U.S. software manufacturers have expressed concern regarding the security of source code filed in the P.R.C. However, the availability of exceptional deposit, together with the administrative or criminal sanctions that may be imposed under the Software Regulations on personnel of the Registration Center who disclose information submitted by applicants, should provide for the security of source code that is included within a registration application.

The Registration Center will examine and approve an application that conforms with the Registration Procedures within 120 days of the application date. Following approval, the Registration Center will issue a registration certificate and publish a notice of the copyright registration. A copyright registration that has been issued and published

161. 37 C.F.R. § 202.20 (c)(2)(vii)(A) (1995). Section 202.20 (C)(2)(viii)(A) provides that “one copy of identifying portions of the program, reproduced in a form visually perceptible without the aid of a machine or device, either on paper or in microform” must be submitted with the registration application. Id. “Identifying portions” are defined, in part, to be

(1) The first and last 25 pages or equivalent units of the source code if reproduced on paper, or at least the first and last 25 pages or equivalent units of the source code if reproduced in microform. If the programs is 50 pages or less, the required deposit will be the entire source code; [or]

(2) Where the program contains trade secret material . . . the first and last 25 pages or equivalent units of source code containing trade secrets blocked out, provided that the blocked-out portions are proportionately less than the material remaining, and the deposit reveals an appreciable amount of the original computer code . . . .


162. James McGregor, China's Rules on Software Short of Mark, Gaps in Copyright Law May Invite Retaliation Under U.S. Trade Act, ASIAN WALL ST. J., June 17, 1991, available in WESTLAW, WSJ-ASIA Database. U.S. software manufacturers fear that providing the source code in a registration application will make it easier for software to be pirated in the P.R.C. Id. Although the Registration Procedures, published a year after the Software Regulations, specifically require source code to be submitted with a registration application, this requirement was removed from the Software Regulations. Id. The removal of the source code requirement from the Software Regulations was apparently a temporary concession to U.S. officials, including then Assistant Trade Representative Joseph Massey, who had urged the P.R.C. not to require registration of the source code. Jeffrey K. Parker, Lawyers Wary of China's New Software Protection Rules, UPI, June 14, 1991, available in LEXIS, News Library, UPSTAT File.


164. Registration Procedures, supra note 65, art. 26 at 91.

165. Id.
may be challenged by any person who can document that the registration application contains false information or the software does not conform with the provisions of the Software Regulations.\textsuperscript{166} Under certain circumstances, approval of an application may also be deferred or denied. An application will be deferred where the correct form is not used, the supporting documentation or identifying materials are not submitted, or the required fees are not paid.\textsuperscript{167} If the software is not copyrightable because it was not independently developed or has not been fixed in a tangible medium of expression, or it was issued prior to the adoption of the Software Regulations and has therefore entered into the public domain, the application for copyright registration will be denied.\textsuperscript{168} An application will also be denied if an assignee failed to record the copyright assignment with the Registration Center within three months of the assignment date.\textsuperscript{169}

The provisions of the Software Regulations governing software copyright duration, like those providing for software copyright registration, have been significantly modified by the Copyright Treaties Provisions. Under the Software Regulations as enacted, copyright in computer software is initially protected for a term of twenty-five years.\textsuperscript{170} Prior to the end of the twenty-five year term, the copyright owner may apply to the Registration Center for an additional term of twenty-five years.\textsuperscript{171} Although the Software Regulations provide for a term of copyright protection not to exceed fifty years, the Copyright Treaties Provisions exempt foreign software copyright owners from the renewal requirement and grant copyright protection to foreign computer software

\begin{enumerate}
\item[166.] \textit{Id.} art. 28 at 91. A registrant will be notified of an opposition and may submit a response; however, registration will be cancelled if the opposition, upon examination, is "held to be tenable." \textit{Id.} arts. 30-31 at 91-92.
\item[167.] \textit{Id.} art. 25 at 91. In the case of software developed by P.R.C. citizens or entities, whose copyrights must be renewed to receive an additional term of twenty-five years, an application will also be deferred if the original registration certificate is not filed with an application for an extension of the copyright. \textit{Id.} art. 25(4) at 91; Software Regulations, \textit{supra} note 48, art. 15 at 59 (duration of copyright).
\item[168.] Registration Procedures, \textit{supra} note 65, art. 25 at 91. An application that has been rejected may be re-examined by a Software Registration Re-Examination Board, upon request, within sixty days of the rejection notification date. \textit{Id.} art. 34 at 92.
\item[169.] Software Regulations, \textit{supra} note 48, art. 27 at 62. Where the applicant is a citizen or entity of the P.R.C., an application for an extension of copyright will be denied if it is submitted after the expiration of the first twenty-five-year term. Registration Procedures, \textit{supra} note 65, art. 25 at 91; Software Regulations, \textit{supra} note 48, art. 15 at 59.
\item[170.] Software Regulations, \textit{supra} note 48, art. 15 at 59.
\item[171.] \textit{Id.}
\end{enumerate}
for a single fifty-year term. While the grant of a single copyright term under the Copyright Treaties Provisions does not extend the duration of copyright protection available to foreign computer software, it does fulfill one of the P.R.C.’s obligations under the Memorandum of Understanding on the Protection of Intellectual Property reached between the U.S. and the P.R.C. in 1992 ("1992 Memorandum of Understanding"). The exemption of foreign software copyright owners from the renewal requirement, which, like registration, is generally viewed as a formality, also eliminates a violation of the Berne Convention provision prohibiting the imposition of formalities as conditions to copyright protection.

Although the Copyright Treaties Provisions eliminate the formality of copyright renewal for foreign computer software copyright owners, first publication is specifically retained as the event commencing the term of copyright protection. The Software Regulations, as enacted, provide that computer programs are protected “for a term of 25 years, ending on December 31 of the 25th year after first publication.” Computer software developed by citizens or entities of the P.R.C. is still subject to this provision of the Software Regulations, even though copyright in such software, whether it is published or not, arises on and is protected from the date on which the software is created and fixed in a tangible medium of expression. The Copyright Treaties Provisions, which exempt foreign software from the duration provisions of the Software Regulations and extend copyright protection to unpublished computer programs as literary works, also provide that the term of copyright protection for foreign computer programs is measured from “the end of

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172. Copyright Treaties Provisions, supra note 54, art. 7 at 37.
174. Berne Convention, supra note 11, art. 5(2) at 2-3.
175. Copyright Treaties Provisions, supra note 54, art. 7 at 37.
176. Software Regulations, supra note 48, art. 15 at 59.
177. Id. arts. 5-6 at 56.
178. Copyright Treaties Provisions, supra note 54, art. 7 at 37.
179. Id. arts. 5, 7 at 36-37.
the year of first publication . . . ”180 Taken together, the provisions of the Software Regulations and the Copyright Treaties Provisions may be interpreted as granting copyright protection to computer software developed by both P.R.C. citizens and entities and foreigners for fixed terms following first publication, in addition to the period from creation and fixation to publication.

A final issue regarding the term of copyright protection granted to foreign computer software under the Copyright Treaties Provisions is raised by the reclassification of computer programs as literary works. Although the Copyright Law does not provide for the protection of computer programs as literary works,181 the Copyright Treaties Provisions expressly state that computer programs receive protection as literary works.182 As literary works, computer programs should be protected under the Copyright Law for a term equal to the life of the developer plus fifty years.183 The term of copyright protection for computer programs in the P.R.C. is much shorter than the life-plus-fifty-years term computer programs receive as literary works under the U.S. Copyright Act184 and as required for artistic and literary works under the Berne Convention.185 If computer programs are in fact to be protected as literary works under the P.R.C. copyright laws, the shorter term of copyright protection granted to foreign software may violate the Berne Convention.186 This conflict between the provisions of the copyright laws of the P.R.C. and the provisions of the Berne Convention has not been specifically addressed and cannot otherwise be eliminated through application of the Berne Convention’s principle of “national treatment”187 because software developed by P.R.C. citizens or entities is also entitled to a maximum

180. Id. art. 7 at 37.
181. Copyright Law, supra note 1, arts. 3(i), (viii) at 26-27 (listing literary works and computer software separately as two distinct categories of copyrightable works).
182. Copyright Treaties Provisions, supra note 54, art. 7 at 37.
183. Copyright Law, supra note 1, art. 21 at 31-32 (granting literary works copyright protection for the life of the author plus fifty years).
185. Berne Convention, supra note 11, art. 7(1) at 4.
186. The word “may” is used because the Berne Convention does not expressly include computer software in the list of works that qualify for protection under the Berne Convention as “artistic and literary works.” Id. art. 2(1) at 1. Although this list is not considered to be exhaustive, not all countries adhering to the Berne Convention grant copyright protection to computer programs as literary works. See infra notes 407-08 and accompanying text.
187. Berne Convention, supra note 11, art. 5(1) at 2.
copyright term of fifty years. The duration of computer software copyright, under the P.R.C. copyright laws or the Berne Convention, is therefore fifty years from the date of first publication. Once the term of copyright protection has expired, all rights in the copyrighted software, other than the developer's moral right of attribution, terminate and the software enters into the public domain.

D. Exclusive Rights and Their Limitations

The P.R.C. Copyright Law and Software Regulations, unlike the U.S. Copyright Act, grant copyright owners both economic and moral rights. Under the Software Regulations, software copyright owners enjoy the following exclusive rights: the right of publication; the right of attribution; the right of exploitation; and the right to license or assign the work to third parties. Among these exclusive rights, the software copyright owner's moral or personal rights are those of publication.

_188._ Software Regulations, _supra_ note 48, art. 15 at 59 (including a renewal term).

_189._ _Id._ art. 20 at 60. The right of attribution is defined in the Software Regulations as "the right to indicate the developer's identity and the right to affix the developer's name to the software." _Id._ art. 9(ii) at 57. The right of attribution, as a moral right that is personal to the developer, is "protected for an unlimited term." _Id._ art. 15 at 59.

_190._ Copyright Law, _supra_ note 1, art. 9 at 28-29; Software Regulations, _supra_ note 48, art. 9 at 57. In the United States, copyright law is based on the "economic philosophy . . . that encouragement of individual effort by personal gain is the best way to advance the public welfare through the talents of authors . . . " _Mazer_ v. _Stein_, 347 U.S. 201, 219 (1954). As such, the U.S. Copyright Act grants authors economic rights which they can exploit for their own economic benefit. In contrast, the copyright laws of many European countries and most signatories of the Berne Convention grant authors economic as well as moral rights in their works. Moral rights generally consist of the author's right of attribution or paternity (the right to claim authorship of his or her work) and the right of integrity (the right to prevent the work from being mutilated, distorted, or otherwise modified in a manner that would be prejudicial to the author's honor or reputation). _See_ Berne Convention, _supra_ note 11, art. 6bis at 3; 17 U.S.C. § 106(A) (1994) (granting authors of works of visual art the moral rights of attribution and integrity). Unlike economic rights, moral rights "treat the author's work not just as an economic interest but as an inalienable, natural right and an extension of the artist's personality." _Marshall Leaffer, Understanding Copyright Law_ 254 (1989).

_191._ The exclusiveness of the rights granted under Article 9 of the Software Regulations is established by Article 30, which provides that the use or alteration of a copyrighted work "without permission from the copyright owner" constitutes infringement. Software Regulations, _supra_ note 48, art. 30 at 63.

_192._ _Id._ art. 9 at 57.

_193._ _Id._ art. 9(i) at 57. The right of publication is defined as "the right to decide
The Berne Convention specifically requires, in addition to the right of attribution, the protection of the right of integrity, the copyright owner’s right to “object to any distortion, mutilation, or other modification” of his or her work. Although the Copyright Law grants the right of integrity to copyright owners, the Software Regulations fail to comply with the Berne Convention by excluding the right of integrity, whether or not to make the software available to the public.” Id. Although the right of publication can be both a moral and economic right, the Software Regulations do not expressly define the right of publication to include the economic right to actually publish or print the work, in addition to the moral right to decide whether or not to make the work available to the public. This omission was corrected by the Registration Procedures, which stipulate that the term “to make public” refers to “the act of making the software available to the public, including the distribution of the software to the public by selling it or by other means of providing copies of it or the public display of the software for the purpose of further distributing copies of it.” Registration Procedures, supra note 65, art. 3(1) at 89.

194. Software Regulations, supra note 48, art. 9(ii) at 57. The right of attribution is defined as “the right to indicate the developer’s identity and the right to affix the developer’s name to the software.” Id.

195. The author’s moral rights of attribution and integrity in his or her work are recognized in Article 6bis(1) of the Berne Convention, which provides that independently of the author’s economic rights and even after the transfer of the said rights, the author shall have the right to claim authorship of the work, and to object to any distortion, mutilation, or other modification of, or other derogatory action in relation to, the said work, which would be prejudicial to his honor or reputation. Berne Convention, supra note 11, art. 6bis(1) at 3.

196. Copyright Law, supra note 1, art. 9 at 28-29. In addition to the rights of attribution and publication, the Copyright Law grants copyright owners the right to protect the integrity of their copyrighted works. Id. The right of integrity is defined as “the right to protection one’s work against misrepresentation and distortion.” Id. art. 9(iv) at 28.

197. Software Regulations, supra note 48, art. 9 at 57. The moral right of integrity may have logically been excluded from the Software Regulations as inconsistent with the fair use provision allowing lawful holders of computer software to modify the work. Id. art. 21(iii) at 61. It is also possible that the right of integrity was not included in the Software Regulations because computer programs are not specifically listed among the examples or categories of works eligible for copyright protection under the Berne Convention. Berne Convention, supra note 11, art. 2 at 1. It should also be noted that the Software Regulations do not grant moral rights in the software to the developer but to the software copyright owner. Software Regulations, supra note 48, art. 9 at 57. This is unusual because moral rights are personal to the author or, in the case of computer software, the developer, and are normally retained by the author or developer even after ownership of the copyright has been transferred. See Berne Convention, supra note 11, art. 6bis(1) at 3 (stating that the right of attribution and integrity are retained by the author “even after the transfer” of his or her economic rights).
one of the two moral rights it requires Berne Union countries to recognize and protect.\textsuperscript{198} If, as the Copyright Treaties Provisions provide, computer programs are to receive protection as literary works,\textsuperscript{199} software copyright owners should be granted the right of integrity, in addition to the rights of attribution and publication. In marked contrast to the P.R.C. copyright laws, the U.S. Copyright Act, with one exception,\textsuperscript{200} grants neither the right of attribution nor the right of integrity to copyright owners. Although moral rights were the subject of extensive debate in the U.S. prior to its accession to the Berne Convention, the U.S. Congress ultimately concluded that U.S. accession did not require amendment of the U.S. Copyright Act to specifically include moral rights because existing U.S. law recognized and adequately protected such rights.\textsuperscript{201}

In addition to the moral rights of attribution and publication, the Software Regulations grant software copyright owners several economic rights, the most extensive of which is the right of exploitation. As defined by the Software Regulations,\textsuperscript{202} the copyright owner’s right of exploitation includes “the right to use [the] software through such means as reproduction,\textsuperscript{203} revelation,\textsuperscript{204} distribution,\textsuperscript{205} revision,\textsuperscript{206} translation,\textsuperscript{207} and

\textsuperscript{198}. Berne Convention, \textit{supra} note 11, art. 6bis(1) at 3.

\textsuperscript{199}. Copyright Treaties Provisions, \textit{supra} note 54, art. 7 at 37.

\textsuperscript{200}. With the exception of moral rights granted to authors of works of visual art under Section 106A, moral rights are not granted to copyright owners under the U.S. Copyright Act. 17 U.S.C. § 106A (1994).

\textsuperscript{201}. \textit{See} H. R. Rep. No. 100-609, 100th Cong., 2nd Sess. 9-10 (1988), \textit{reprinted in} 1988 U.S.C.C.A.N. 3706, 3714-15. Despite the absence of moral rights under the U.S. Copyright Act, authors’ rights equivalent to the moral rights of attribution and integrity have been protected on the basis of both copyright and unfair competition laws. \textsc{Leaffer}, \textit{supra} note 190, at 255. Contract, defamation, and privacy laws have also afforded some protection for aspects of an author’s artistic personality and reputation. \textit{Id.} at 256. The United States’ failure to grant moral rights to authors of all copyrightable works under the Copyright Act may not expressly violate the Berne Convention, which provides that “the means of redress for safeguarding the [moral] rights granted . . . shall be governed by the legislation of the country where the protection is claimed.” Berne Convention, \textit{supra} note 11, art. 6bis(3) at 4.

\textsuperscript{202}. Software Regulations, \textit{supra} note 48, art. 9(iii) at 57.

\textsuperscript{203}. “Reproduction” is specifically defined in the Software Regulations as “the copying of software onto a tangible medium.” Software Regulations, \textit{supra} note 48, art. 3(v) at 56.

\textsuperscript{204}. The term “revelation” is not defined in the Software Regulations and does not appear in the Copyright Law.

\textsuperscript{205}. “Distribution,” although not defined in the Software Regulations, is addressed in the Registration Procedures, which define the term “to make public” to include the “distribution of the software to the public by selling it or by other means of providing
The rights granted under the right of exploitation are similar to those granted to copyright owners under the Copyright Law and to three of the five exclusive rights granted to owners of copyrights in literary works under the U.S. Copyright Act: the right to reproduce the copyrighted work in copies; the right to prepare derivative works based upon the copyrighted work; and the right to distribute copies of the copyrighted work to the public by sale or other transfer of ownership. Both the Software Regulations and the U.S. Copyright Act grant software copyright owners the right to reproduce and distribute the copyrighted software to the public, and the right to exploit the work by "revision, translation, and annotation" granted under the Software Regulations is

2. The term "revision" is not defined in the Software Regulations or the Implementing Regulations, even though both the Software Regulations and the Copyright Law grant the right of revision to copyright owners. Software Regulations, supra note 48, art. 9(iii) at 57; Copyright Law, supra note 1, art. 9(iii) at 28. The Registration Procedures define the term "revised version" as "software which is formed by making revisions in the original software and which is significantly improved in function or performance." Registration Procedures, supra note 65, art. 3(2) at 89.

207. "Translation" is not defined in the Software Regulations; however, the Implementing Regulations define translation as "the conversion of a work from one language into another." Implementing Regulations, supra note 63, art. 5(ix) at 30. As applied to computer programs, translation would presumably also include the translation of a program from one programming language into another.

208. "Annotation" is also not defined in the Software Regulations. The Implementing Regulations define annotation as "the explanation of the characters, words or sentences of a written work." Id. art. 5(x) at 30.

209. The right of exploitation granted to software copyright owners under the Software Regulations includes, with the exception of the rights of adaptation, compilation, and various other rights relating to the performance, broadcasting, or adaptation of a work as a motion picture, the same rights that are granted to copyright owners under the Copyright Law. Copyright Law, supra note 1, art. 10 at 28-29.

210. 17 U.S.C. § 106(1)-(3) (1994). In addition to the exclusive right to reproduce the work, prepare derivative works based upon the work, and to distribute the work to the public, the U.S. Copyright Act grants owners of copyrights in literary works the right to perform and the right to display the works publicly. Id. § 106(4)-(5).

211. Software Regulations, supra note 48, art. 9(iii) at 57; 17 U.S.C. § 106(1), (3) (1994).

212. Software Regulations, supra note 48, art. 9(iii) at 57.
analogous to the right to prepare derivative works granted under the U.S. Copyright Act.\textsuperscript{213}

The right of adaptation, granted to copyright owners in the U.S. under the exclusive right to prepare derivative works,\textsuperscript{214} is not expressly granted to software copyright owners under the Software Regulations. However, the Registration Procedures appear to bring adaptation within the software copyright owner's right of revision by defining the term "revised version" of software as new software formed by the modification or revision of existing software.\textsuperscript{215} This definition of "revised" software resembles the definition of adaptation included in the Implementing Regulations,\textsuperscript{216} in so far as both refer to the creation of a new work by the alteration or modification of an existing work. In addition, because computer programs are entitled to receive protection as literary works\textsuperscript{217} and the owner of the copyright in a literary work receives the right of adaptation under the Copyright Law,\textsuperscript{218} a software copyright owner should receive the right to adapt or authorize the adaptation of his or her software. The conclusion that a software copyright owner has the exclusive right to adapt or authorize the adaptation of his or her software is also supported by the Software Regulations classification of the unauthorized revision of computer software, except by the lawful owner of an authorized copy of the software,\textsuperscript{219} as an infringing act.\textsuperscript{220}

Like the right of adaptation, the right of compilation is not expressly granted to software copyright owners under the Software Regulations. The Registration Procedures define the term "integrated software," a term that is not used in the Software Regulations, as newly-developed software that combines a number of pieces of existing software or some of their elements, "linking them and arranging them in accordance with [the developer's] specific requirements, and embodies the creative labour of the

\textsuperscript{213} 17 U.S.C. § 106(2) (1994). Under the U.S. Copyright Act, a "derivative work" is defined, in part, to include "a work based upon one or more preexisting works, such as a translation, ... abridgement, condensation, or any other form in which a work may be recast, transformed, or adapted. A work consisting of editorial revisions, annotations, elaborations, or other modifications which, as a whole, represent an original work of authorship, is a 'derivative work.'" \textit{Id.} at § 101.

\textsuperscript{214} \textit{Id.} at § 106(2).

\textsuperscript{215} Registration Procedures, \textit{supra} note 65, art. 3(2) at 89.

\textsuperscript{216} Implementing Regulations, \textit{supra} note 63, art. 5(viii) at 30.

\textsuperscript{217} Copyright Treaties Provisions, \textit{supra} note 54, art. 7 at 37.

\textsuperscript{218} Copyright Law, \textit{supra} note 1, art. 10(v) at 28-29.

\textsuperscript{219} Software Regulations, \textit{supra} note 48, art. 21(iii) at 61.

\textsuperscript{220} \textit{Id.} art. 30(v) at 63.
This definition is similar to those of arrangement and compilation included in the Implementing Regulations; however, unlike the Copyright Law, the Software Regulations do not include a provision governing ownership of copyright in a work created through adaptation, annotation, or compilation. Under the Copyright Law, the "copyright in a work created through adaptation, . . . annotation or collation of a pre-existing work [vests] in the adaptor, . . . annotator or collator, provided that [the] exercise of such right does not prejudice the copyright in the original work." Similarly, the U.S. Copyright Act provides that copyright in a compilation "does not extend to any part of the work in which [preexisting] material has been used unlawfully," i.e., without authorization from the owner of the copyright in the preexisting material. The unauthorized use of copyrighted software in a compilation program should qualify, under the Copyright Law, as an exercise of the compiler's rights that would "prejudice the copyright" in the original copyright owner's software. Because the Software Regulations provide that even partial unauthorized reproduction of a copyrighted work is an infringing act, software copyright owners are, in effect, granted the exclusive right to exploit or to authorize the exploitation of their work in a compilation program. Furthermore, as the Copyright Law expressly grants the owner of the copyright in a literary work the right to use or authorize the use of the work in a compilation and software is to be afforded protection as a literary work, a software copyright owner should receive the right to use or authorize the use of his or her copyrighted software in a compilation program.

221. Registration Procedures, supra note 65, art. 3(3) at 89.
222. "Arrangement" is defined as "selecting a number of works or fragments of works and arranging them to form one work in accordance with specific requirements." Implementing Regulations, supra note 63, art. 5(xi) at 30. Compilation is defined as "the organization and systematization of pre-existing written works or materials whose contents are scattered or which lack unity and coherence . . . ." Id. art. 5(xii) at 30-31. The U.S. Copyright Act defines a "compilation" as "a work formed by the collection and assembling of preexisting materials or of data that are selected, coordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship." 17 U.S.C. § 101 (1994).
223. Copyright Law, supra note 1, art. 12 at 29.
224. Id. The Copyright Law uses both the words "collation" and "compilation."
226. Software Regulations, supra note 48, art. 30(vi) at 63.
227. Copyright Law, supra note 1, art. 10(v) at 28-29.
228. Copyright Treaties Provisions, supra note 54, art. 7 at 37.
In addition to the right of exploitation, the Software Regulations grant copyright owners the economic right to license or assign their works.\(^{229}\) Under provisions similar to those found in the Copyright Law,\(^{230}\) the Software Regulations permit a software copyright owner or his or her assignee to license, for a fee, the exercise of his or her exploitation right to others.\(^{231}\) Licenses may be granted by written contract for a term of up to ten years, and “unless the contract expressly provides for the grant of an exclusive license, licensed rights in software [are] deemed to be non-exclusive.”\(^{232}\) Although the Copyright Law does not provide for the assignment of copyrights, the Software Regulations permit software copyright owners or licensees to assign their exploitation rights to third parties by written contract.\(^{233}\) Where rights are assigned in software that has been registered, the Software Regulations require the assignee to record the assignment with the Registration Center within three months of the date of the assignment\(^{234}\) and impose harsh penalties upon an assignee who fails to do so.\(^{235}\) The assignee of a software copyright owned by a foreign developer would presumably be exempted from this registration requirement because a foreign software copyright owner is not required to register or renew his or her software copyright.\(^{236}\) If the foreign software being assigned has been registered, however, the assignee should, in the absence of clarification in the law, notify the Registration Center of the copyright assignment. Finally, where a work owned by a P.R.C. citizen is being assigned or licensed to a foreign party, the Software Regulations require the assignment or license to be approved by and recorded with the Registration Center.\(^{237}\)

The Copyright Law and Software Regulations both provide limitations to the author or software developer’s exclusive rights.\(^{238}\) These limitations

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\(^{229}\) Software Regulations, supra note 48, arts. 9(iv)-(v) at 57.

\(^{230}\) Copyright Law, supra note 1, arts. 24-26 at 34 (governing copyright licensing agreements). See also Implementing Regulations, supra note 63, arts. 32-33 at 36.

\(^{231}\) Software Regulations, supra note 48, art. 18 at 60.

\(^{232}\) Id.

\(^{233}\) Id. art. 19 at 60.

\(^{234}\) Id. art. 27 at 62. See also Registration Procedures, supra note 65, art. 16(2) at 90.

\(^{235}\) Software Regulations, supra note 48, art. 27 at 62. Under Article 27 of the Software Regulations, an assignee who fails to record the copyright assignment within this three month period “may not oppose infringements by third parties.” Id.

\(^{236}\) Copyright Treaties Provisions, supra note 54, art. 7 at 37.

\(^{237}\) Software Regulations, supra note 48, art. 28 at 62.

\(^{238}\) See Copyright Law, supra note 1, art. 22 at 32-33; Software Regulations, supra
allow copyrighted works and software to be used without obtaining permission from or paying compensation to the copyright owners and are, in principle, similar to the fair use doctrine as codified in the U.S. Copyright Act.\textsuperscript{239} Under the Copyright Law, the unauthorized reproduction and use of a previously published copyrighted work for the purpose of "individual study, research or enjoyment,"\textsuperscript{240} introducing or reviewing the work,\textsuperscript{241} "reporting current events,"\textsuperscript{242} or "classroom teaching or scientific research"\textsuperscript{243} is a fair use. The Copyright Law also permits state entities to use a copyrighted work for "the purpose of carrying out official duties."\textsuperscript{244} The fair use provision of the Software Regulations permits the unauthorized reproduction and use of software "in small quantities . . . for such non-commercial purposes as classroom teaching, scientific research and carrying out of official duties by state agencies."\textsuperscript{245} Software reproduced and used for any of these purposes may not be made available to others and must be collected or destroyed after use.\textsuperscript{246} The requirement that copyrighted software be used for "noncommercial purposes" is consistent with the fair use provision of the U.S. Copyright Act, which requires U.S. courts to consider whether the purpose and character of the use is of a "commercial nature" and the effect of the use "upon the potential market for or value of the copyrighted work" in determining whether a use is fair.\textsuperscript{247} However, unlike the U.S. Copyright Act, neither the Copyright Law nor the Software Regulations

\begin{footnotes}
\item[240] Copyright Law, \textit{supra} note 1, art. 22(i) at 32.
\item[241] \textit{Id.} art. 22(ii) at 32.
\item[242] \textit{Id.} art. 22(iii) at 32.
\item[243] \textit{Id.} art. 22(vi) at 33.
\item[244] \textit{Id.} art. 22(vii) at 33.
\item[245] Software Regulations, \textit{supra} note 48, art. 22 at 61.
\item[246] \textit{Id.}
\item[247] 17 U.S.C. § 107(1), (4) (1994). When making a determination of fair use under Section 107, courts are required to consider the following factors:
\begin{enumerate}
\item the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
\item the nature of the copyrighted work;
\item the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
\item the effect of the use upon the potential market for or value of the copyrighted work.
\end{enumerate}
\textit{Id.}
\end{footnotes}
provide specific guidelines for determining the character and ultimate fairness of a use.

Although the scope of the fair use exceptions provided for in the Software Regulations will ultimately depend upon the interpretation of the terms "small quantities" and "noncommercial purposes," the concept of fair use as it is included in the Software Regulations may prove to be much broader than its U.S. counterpart. Because many software developers in the P.R.C. are affiliated with state universities and research centers, there is concern that developers may, under the teaching and scientific research fair use exception, copy and reverse-engineer copyrighted software "with the commercial aim of creating new software." The inclusion of a fair use exception for state agencies in the Software Regulations has also been criticized as excessively expanding the scope of fair use and weakening software copyright protection in the P.R.C. Although some commentators have maintained that only legislative, judicial, and administrative bodies qualify as state agencies under this fair use exception, the broad language used in the Software Regulations could reasonably be interpreted to include use by any state agency. Furthermore, it appears that a state agency may justify its use of copyrighted software by asserting that its reproduction of the software was

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248. Software Regulations, supra note 48, art. 22 at 61.

249. The U.S. Supreme Court has defined reverse engineering as "starting with the known product and working backward to divine the process which aided in its development or manufacture." Kewanee Oil v. Bicron Corp., 416 U.S. 470, 476 (1974). When a computer program is reverse-engineered, a decompiler or disassembler program is used to translate object code into source code. "To accomplish this, a computer must copy the program into memory, translate the program, and save the translated source code back into memory or produce a paper copy of it." Joe L. Gage, Jr., Copyright Law and Reverse Engineering: Have Recent Decisions Taken the Fair Out of Use?, 46 BAYLOR L. REV. 183 (1994). Because a copy of the copyrighted work is created during the process of reverse engineering, if it is done without the authorization of the copyright owner, the process, at the very least, infringes the copyright owner's exclusive right to reproduce his or her copyrighted work. 17 U.S.C. § 106(1) (1994). Reverse engineering, notwithstanding the fact that it entails copying a work, has been held to be a fair use when done for the purpose of accessing a computer program's unprotected idea(s). See, e.g., Sega Enters. Ltd. v. Accolade, Inc., 977 F.2d 1510 (9th Cir. 1992); Atari Games Corp. v. Nintendo of Am., Inc., 975 F.2d 832 (Fed. Cir. 1992).


252. Id. at 279. See also Gushu, supra note 41, at 23.
necessary to the performance of its "official duties." What constitutes official business may, in the words of one commentator, be "susceptible to arbitrary definition." Although U.S. software manufacturers have had limited success in locating and prosecuting individuals or entities manufacturing and selling unauthorized copies of software to the public, it is unlikely that these manufacturers, even with the support of the U.S. government, would be able to stop the unauthorized reproduction and use of copyrighted software by agencies of the P.R.C. government.

Like the U.S. Copyright Act, the Software Regulations include specific limitations to the reproduction and adaptation rights of computer software copyright owners. The Software Regulations provide that a lawful holder of an authorized copy of a computer program may, without first obtaining the consent of the copyright owner, "install the software into a computer as required for use," "make back-up reproductions for archival purposes," or "make necessary modifications to the software in order to use it in the actual computer environment or to improve its functions and performance." Under the U.S. Copyright Act, a lawful owner of a copy of a computer program may make a copy of it for archival purposes or may copy or adapt it where the reproduction or adaptation is "essential" for use. The Software Regulations, like the U.S. Copyright Act, stipulate that archival copies "may not be made available to others" and must "be destroyed once the holder loses his [or

253. Software Regulations, supra note 48, art. 22 at 61.
255. U.S. software manufacturers, individually or working with organizations such as the Business Software Alliance, have been successful at cracking down on piracy in the P.R.C. by locating and seeking the prosecution of individuals commercially producing unauthorized copies of copyrighted software. See infra notes 382-83 and accompanying text.
257. Software Regulations, supra note 48, art. 21 at 60-61.
258. Id. art. 21(i) at 61.
259. Id. art. 21(ii) at 61.
260. Id. art. 21(iii) at 61.
262. Id. at § 117(1).
263. Id. at § 117 (permitting reproduction or adaptation of an authorized copy of a computer program provided that the "copy or adaptation is for archival purposes only and that all archival copies are destroyed in the event that the continued possession of the computer program should cease to be rightful").
her] right to hold the software lawfully."264 The Software Regulations also require the consent of the copyright owner to be secured before modified or adapted software is transferred.265 This requirement is consistent with the copyright limitation provisions of the U.S. Copyright Act, which permit the transfer of an archival copy with the original copy of the computer program but require the authorization of the copyright owner to be obtained before an adaptation of the program is transferred.266 These software-specific copyright limitations, like the general fair use limitations, function as exceptions or defenses to copyright infringement.

E. Copyright Infringement and Available Remedies

The Copyright Law identifies two levels of copyright infringement, distinct in the infringing activities they address and the liabilities they impose.267 Although the Software Regulations list infringing acts and the remedies for infringement in a single provision, the acts constituting infringement and the remedies available to software copyright owners are essentially the same as those enumerated in the Copyright Law.268 In general, any act that violates any of the software copyright owner's exclusive moral or economic rights constitutes copyright infringement. Of the eight infringing acts listed in the Software Regulations,269 the first four infringe the software copyright owner's moral rights of publication and/or attribution: "publishing a software work without permission from the software copyright owner";270 "publishing as one's own software work developed by another";271 publishing jointly-developed software without acknowledging or obtaining permission from the co-developer(s);272 and "affixing one's name to software developed by another or altering the

264. Software Regulations, supra note 48, art. 21(ii) at 61.
265. Id. art. 21(iii) at 61.
267. Infringing acts are listed in two different articles of the Copyright Law and differ in the "seriousness" of the act and the remedies available. Copyright Law, supra note 1, arts. 45-46 at 39-40.
268. Software Regulations, supra note 48, art. 30 at 63; cf. Copyright Law, supra note 1, arts. 45-46 at 39-40.
269. Software Regulations, supra note 48, art. 30 at 63.
270. Id. art. 30(i) at 63.
271. Id. art. 30(ii) at 63.
272. Id. art. 30(iii) at 63.
The acts of publishing as one's own or affixing one's name to software developed by another, or altering the developer's name on the software itself, violate the software developer's right of attribution and therefore constitute copyright infringement. The right of a co-developer to be named as such and his or her co-ownership of the copyright in jointly-developed software prevents one developer from publishing the software as his or her own work or without the permission of the co-developer(s). Such acts have been held by a P.R.C. court to violate a co-author's moral rights of attribution and publication and constitute copyright infringement. Finally, publishing software without the software copyright owner's permission violates his or her moral right of publication, the "right to decide whether or not to make the software available to the public," as well as his or her economic right to distribute the copyrighted software "by selling it or by other means of providing copies of it or the public display of the software for the purpose of further distributing copies of it" to the public.

Other acts listed in the Software Regulations infringe the software copyright owner's economic right of exploitation. If done without the copyright owner's permission, the following acts constitute copyright infringement: "revising, translating or annotating" software; "reproducing or partially reproducing" software; "publicly distributing or revealing or reproducing software"; or "licensing or assigning software to a third party." With the exception of lawful holders of copyrighted software, who are permitted to modify the software in order to use it on a computer or to improve the software's function and

273. Id. art. 30(iv) at 63.
274. Id. arts. 30(ii)-(iv) at 63.
275. Id. art. 30(iii) at 63.
276. Even before the Copyright Law was enacted, a P.R.C. court determined that a co-author who published a jointly-authored work without naming and sharing the income derived from the publication with the co-author was a copyright infringer. See Li Qin v. Ding Jie, discussed in Case Digest, CHINA L. & PRAc., Dec. 1988, at 38, 38.
277. Software Regulations, supra note 48, art. 9(i) at 57.
278. Id.; Registration Procedures, supra note 65, art. 3(1) at 89.
279. Software Regulations, supra note 48, art. 30(v) at 63.
280. Id. art. 30(vi) at 63.
281. Id. art. 30(vii) at 63.
282. Id. art. 30(viii) at 63.
anyone who revises, translates, or annotates software without first obtaining the copyright owner’s permission to do so will be liable for copyright infringement. The Copyright Law and the Software Regulations both grant copyright owners a right of revision; however, finding infringement on the basis of unauthorized revision of computer software by a lawful holder of a copy of the program will require a distinction to be made between revision constituting infringement and permitted modification. This may be difficult in light of the fact that the term revision is not defined in the Software Regulations and a holder of an authorized copy of a computer program may assert that modifications were made to use or improve the function of the program.

Reproduction, defined as the “copying of software onto a tangible medium,” is an infringing act. With the exception of back-up or archival copies of computer programs made by lawful holders of copies of such programs, an exact reproduction of an entire copyrighted program would clearly be an infringement. The Software Regulations expressly provide that the partial reproduction of a copyrighted program may also be an infringement; however, in the absence of further regulations or court decisions interpreting the term “partially reproducing,” it is not clear how much of a copyrighted program must be reproduced to constitute an infringement of the copyright owner’s reproduction right. Non-literal copying is not addressed in the Software Regulations and is likely to pose difficulties because, at least in the U.S., a computer program, as a literary work, can be infringed when its organizational structure, rather than its source or object code, is copied. Without specific provisions regarding the non-literal copying of computer software, it is possible that the copying of the structure, sequence, and

283. Id. art. 21(iii) at 61.
284. Id. art. 30(v) at 63.
285. Copyright Law, supra note 1, art. 10(iii) at 28; Software Regulations, supra note 48, art. 9(iii) at 57.
286. Software Regulations, supra note 48, art. 21(iii) at 61.
287. Id. art. 3(v) at 56.
288. Id. art. 30(vi) at 63.
289. Id. art. 21(ii) at 61.
290. Id. art. 30(vi) at 63.
291. Id.
292. See Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc., 797 F.2d 1222, 1248 (3d Cir. 1986) (holding that “copyright protection of computer programs may extend beyond the programs’ literal code to their structure, sequence, and organization . . .”).
organization of a computer program may not qualify as infringement under the Software Regulations if the source or object code of the program has not been literally copied.\textsuperscript{293} The P.R.C. courts have not yet decided a claim of infringement based on non-literal copying, and it is not clear whether the Standing Committee of the National People's Congress (SCNPC) or the administrative agencies responsible for implementing and interpreting the Software Regulations\textsuperscript{294} will provide the courts with a method of determining non-literal copyright infringement similar to tests developed for that purpose by courts in the U.S.\textsuperscript{295}

In addition to non-literal copying, the Software Regulations also fail to address the unauthorized reproduction of software through the process of reverse-engineering. While a P.R.C. court would be required under the Software Regulations to find any exact copying of a program's source or object code during such a process to be an infringing act,\textsuperscript{296} it is not clear whether it would find, as U.S. courts have,\textsuperscript{297} that reverse-engineering for the purpose of identifying and using the program's unprotected idea(s) would constitute a fair use. Because the Software Regulations stipulate that ideas are not eligible for copyright protection,\textsuperscript{298} a P.R.C. court could find that, in the absence of reproduction of a program's copyrighted expression, reverse-engineering for the purpose of accessing a program's unprotected idea(s) does not constitute copyright infringement. Given the current trend toward compatibility in computer software,\textsuperscript{299} it is likely that

\textsuperscript{293} Because only the source and object code are specifically mentioned within the definition of a computer program, the Software Regulations could be narrowly interpreted to exclude non-literal copying as an infringing act. Software Regulations, supra note 48, art. 3(i) at 55.

\textsuperscript{294} Id. art. 39 at 66. The P.R.C. Constitution vests the power of interpreting statutes in the Standing Committee of the National People's Congress (SCNPC) and the power of interpreting rules and regulations in administrative agencies designated by and under the authority of the State Council. P.R.C. Constitution, supra note 63, arts. 67(4), 89(1), (3)-(4), 90 at 49, 54-55. The SCNPC is therefore vested with the authority to interpret the Copyright Law it enacted, and the National Copyright Administration, as designated by the State Council, is vested with the power to interpret the Software Regulations and the other copyright rules and regulations that govern copyright in computer software.

\textsuperscript{295} See, e.g., Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc., 797 F.2d 1222 (3d Cir. 1986); Computer Assocs. Int'l, Inc. v Altai, Inc., 982 F.2d 693 (2d Cir. 1992).

\textsuperscript{296} Software Regulations, supra note 48, art. 3(i) at 55.

\textsuperscript{297} See Sega Enters. Ltd. v. Accolade, Inc., 977 F.2d 1510 (9th Cir. 1992); Atari Games Corp. v. Nintendo of Am., Inc., 975 F.2d 832 (Fed. Cir. 1992).

\textsuperscript{298} Software Regulations, supra note 48, art. 7 at 56.

the P.R.C. courts will soon be called upon to decide under what circumstances, if any, reverse-engineering of a computer program is a copyright infringement.

The Software Regulations fail to address two additional issues that are likely to be raised in the context of computer software copyright infringement. First, screen displays are not specifically protected under the Software Regulations and the unauthorized reproduction of a program's user interfaces is not included as an infringing act. Although U.S. courts have held user interfaces to be copyrightable expression and therefore eligible for copyright protection, the scope of protection has been limited by application of the idea-expression dichotomy or the merger doctrine, and by the exclusion of utilitarian or functional elements, or elements that are standardized or in the public domain, from protectable expression. The idea-expression limitation included in the Software Regulations would presumably be applicable to user interfaces, but it is possible that the copying of a program's screen displays would not constitute copyright infringement unless the program's source or object code has also been copied. Second, although distribution is defined in the Implementing Regulations to include the rental of a copyrighted work, and the unauthorized distribution of copyrighted software is an infringing act, the Software Regulations do not impose restrictions, as the U.S. Copyright Act does, on the rental of an authorized copy of a computer program. Although the Copyright Treaties Provisions stipulate that a foreign copyright owner who has authorized the distribution of his or her work may further "authorize or prohibit the rental of copies of [the] work," it is not clear whether the unauthorized rental of copyrighted software will


302. Software Regulations, supra note 48, art. 7 at 56.

303. Id. art. 3(i) at 55.

304. Implementing Regulations, supra note 63, art. 5(v) at 30.

305. Software Regulations, supra note 48, art. 30(vii) at 63.


constitute an infringing act. However, as the Implementing Regulations include the right to rent or authorize the rental of a copyrighted work within the distribution right granted under the Copyright Law to owners of copyrights in literary and other works, and computer software is entitled to receive protection as a literary work, a software copyright owner should have the right to authorize or prohibit the unauthorized rental of his or her copyrighted software in the P.R.C.

In addition to the distinction drawn between the idea and expression of a copyrighted computer program and the concept of fair use, which affect determinations of infringement by limiting the scope and protection of computer software copyright, the Software Regulations also contain specific exceptions to copyright infringement. The Software Regulations include an exception to copyright infringement that is similar to the merger doctrine applied in the U.S. as a defense to copyright infringement. Under the Software Regulations, similarities between existing software and "newly developed" software will not constitute infringement where the similarity arises from the fact that a limited number of "available forms of expression" exist. Although the merger provision of the Software Regulations, by denying copyright protection to the expression of a computer program where it has merged with the program's unprotected idea(s), conforms with U.S. copyright law, it also provides that similarities between new and existing copyrighted software that result from "the necessity [of] implement[ing] relevant policies, laws, rules and regulations of the state" or "state technical standards" cannot be used to establish infringement of the copyrighted software. Like the fair use exception provided to state agencies, these limitations to software copyright protection are overly-broad and could substantially narrow the scope of computer software copyright and its protection in the P.R.C. Under the merger provision, administrative agencies and courts in the P.R.C. could justify the denial of copyright protection to a particular computer program by finding that reproduction of the program by the state was "necessary" to the implementation of state laws or regulations. The government could also, in effect, legalize the copying of any element of

308. Id. art. 7 at 37.
309. Software Regulations, supra note 48, art. 31(iii) at 64.
311. Software Regulations, supra note 48, art. 31(iii) at 64.
312. Id. arts. 31(i)-(ii) at 64.
313. Id. art. 22 at 61.
314. Simone, supra note 250, at 69.
copyrighted software by designating it a technical standard and requiring that it be included in any software developed in the P.R.C.315

Although the Software Regulations provide that similarities between a copyrighted computer program and an allegedly infringing program that result from the merger of the copyrighted program’s idea and its expression or the necessity of implementing laws or technical standards are to be considered by the P.R.C. courts as limiting the protection afforded to the copyrighted program,316 the concept of substantial similarity, applied by U.S. courts as the copyright infringement standard,317 does not appear in the Copyright Law or the Software Regulations. In the U.S., where the copyright owner is unable to provide direct evidence of copyright infringement, both access to the copyrighted work and substantial similarity between the allegedly infringing work and copyrighted work, based on a quantitative and qualitative assessment of the similarities in the two works, must be shown to establish copyright infringement.318 The absence of a standard comparable to that of substantial similarity makes it difficult to predict how the P.R.C. courts will actually make a determination of copyright infringement. Although nothing in the Software Regulations suggests that a P.R.C. court will, in adjudicating a claim of copyright infringement, engage in a qualitative analysis of the similarities between the copyrighted and the allegedly infringing programs beyond determining whether the similarities exist in the programs' copyrightable expression or their unprotected ideas, the inclusion of the word partial in the Software Regulations' definition of an infringing reproduction319 suggests that a P.R.C. court will engage in at least a quantitative analysis of such similarities. It is not clear, however, how many similarities must exist or how much of a copyrighted work must be copied before infringement will be found. In one case, decided prior to the enactment of the Copyright Law, a P.R.C. court held that a work that copied one-tenth of a copyrighted work infringed the copyrighted work because its use of the copyrighted work “exceeded an appropriate level of citation.”320

316. Software Regulations, supra note 48, art. 31 at 63-64.
317. See, e.g., Nichols v. Universal Pictures Corp., 45 F.2d 119 (2d Cir. 1930).
319. Software Regulations, supra note 48, art. 30(vi) at 63.
The Software Regulations provide a final limitation to copyright infringement in the form of an innocent infringer defense.\textsuperscript{321} The only secondary infringement addressed in the Software Regulations, the possession of infringing software, is an infringing act if the holder of the unauthorized software knows or has reason to know that the software is an infringement.\textsuperscript{322} When the holder of unauthorized software does not know or has no reasonable grounds for knowing that the software is an infringement, the supplier, rather than the holder, of the infringing software is liable for the copyright infringement.\textsuperscript{323} A supplier of infringing software is defined to “include any person who supplies to others software that he [or she] clearly knows [is] infringing . . . .”\textsuperscript{324} Under this provision, an individual who knowingly supplies infringing software to an unknowing possessor will be liable for copyright infringement; however, it is not clear whether the supplier would also be held liable when the possessor also knows the software is an infringement. A supplier of infringing software should, in either case, be independently liable for reproducing and/or publicly distributing the copyrighted software without the copyright owner's permission.\textsuperscript{325} Although it does not appear that a copyright owner may obtain damages from an unknowing holder of infringing software,\textsuperscript{326} “where the rights and interests of the software copyright owner can only be protected by destroying the infringing software,” the innocent holder may be required “to destroy the infringing software” in his or her possession.\textsuperscript{327}

Under the Software Regulations, disputes over copyright infringement may be resolved through administrative or judicial proceedings.\textsuperscript{328} The administrative procedure for dealing with copyright infringement is

\textsuperscript{321} See also Li Xing Sheng, \textit{Waiting for Supplements: Comments on China's Copyright Law}, 5 EUR. INTELL. PROP. REP. 171, 176 (1991).

\textsuperscript{322} Software Regulations, \textit{supra} note 48, art. 32 at 64.

\textsuperscript{323} \textit{Id}.

\textsuperscript{324} \textit{Id}.

\textsuperscript{325} \textit{Id.} at arts. 30(vi)-(vii) at 63.

\textsuperscript{326} Simone, \textit{supra} note 250, at 70.

\textsuperscript{327} Software Regulations, \textit{supra} note 48, art. 32 at 64.

\textsuperscript{328} \textit{Id.} art. 34 at 64-65. Disputes arising out of contracts relating to copyright ownership may be resolved through arbitration, in addition to mediation or litigation. \textit{Id.} art. 35 at 65. For the specific rules governing arbitration in the P.R.C., see the Arbitration Law of the People's Republic of China (1994), \textit{translated in CHINA L. & PRAc.}, Nov. 1994, at 23, 23.
EVOLUTION AND ENFORCEMENT

mediation, a means of dispute resolution that has been favored in China for centuries. Mediation may be conducted by the parties, their attorneys, or the administrative authority for copyright affairs. The Software Regulations do not designate the administrative authority responsible for the mediation of copyright infringement disputes; however, where a foreign copyright owner is a party to the mediation, the Implementing Regulations stipulate that "the National Copyright Administration shall be responsible for investigating and handling" such disputes. If the parties do not wish to settle their dispute through mediation, are unable to reach a settlement through mediation, or the settlement reached through mediation is repudiated by one party, proceedings may be instituted in a People's Court. In 1993, the Intellectual Property Rights Tribunal of the Beijing Intermediate People's Court was established to hear cases involving copyright infringements and other violations of intellectual property rights. Seven regional copyright courts have also been established in cities throughout the P.R.C., including Shanghai, Guangdong, Fujian, and Hainan. Although the number of cases involving claims of copyright infringement decided in the P.R.C. continues to increase, because many People's Courts have little or no experience in deciding such cases, copyright owners may prefer to bring infringement actions in the Beijing Intellectual Property Rights Tribunal or the regional copyright courts, which presumably have greater expertise in resolving copyright infringement disputes.

329. Software Regulations, supra note 48, art. 34 at 64-65.
331. Id.
332. Implementing Regulations, supra note 63, art. 52(2) at 40.
333. Software Regulations, supra note 48, art. 34 at 64-65.
334. Geoffrey Crothall, 301 Sanctions Unlikely, Say Trade Officials, S. CHINA MORNING POST, June 30, 1994, available in LEXIS, News Library, SCHINA File. See also Beijing Court Accepts 40 Overseas Cases, Xinhua News Agency, June 28, 1994, available in LEXIS, News Library, XINHUA File. In its first year, the Tribunal accepted more than forty copyright infringement cases involving foreign copyright owners; these cases accounted for about twenty percent of the total number of cases it heard. Id.
A finding of copyright infringement results in civil liability and the imposition of civil and/or administrative sanctions. Under the Software Regulations, civil sanctions, including "ceasing the infringement, eliminating [its] effects, making a public apology, and paying damages," may be imposed on an individual or entity found to have committed any of the acts constituting infringement. In addition to civil sanctions, "such administrative sanctions as confiscation of the unlawful income [obtained from the infringement] and [the] imposition of a fine" may be imposed.

It is not clear under the provisions of the Software Regulations how an infringer is to eliminate the effects of the infringement or how damages to the copyright owner are to be calculated. Although the Implementing Regulations permit copyright administrative departments, in exercising their power to impose administrative sanctions, to order the infringer to compensate the copyright owner for his or her losses, this provision would seem to be inapplicable to calculating damages that are characterized as civil, rather than administrative, sanctions. The Software Regulations also fail to specify the amount of the fines that may be imposed for copyright infringements. The Implementing Regulations contain a schedule of fines ranging from Rmb 100-5,000 yuan ($12-599) for plagiarizing another's work to Rmb 10,000-100,000 yuan ($1,198-11,975) for reproducing and distributing a copyrighted work in pursuit of profit without the copyright owner's permission. Although computer programs are entitled to receive protection under the Copyright Law as literary works, it is not clear whether the fines set forth in the Implementing Regulations may also be imposed in cases of software copyright infringement.

Neither the Copyright Law nor the Software Regulations, as enacted, authorize the imposition of criminal penalties for copyright infringement.
EVOLUTION AND ENFORCEMENT

infringement. Provisions were recently added to the P.R.C.'s Criminal Law, however, which make certain acts of copyright infringement criminal offenses. Under the new provisions, embodied in the Resolution on the Punishment of Crimes of Copyright Infringement ("Infringement Resolution"), reproducing and selling copyrighted computer software without the copyright owner's permission is a criminal offense. An individual found to have infringed a copyrighted work or computer program may be sentenced to a prison term of three to five years, depending on the amount of illegal income obtained from the infringing reproduction and/or sale of the copyrighted work, and ordered to compensate the copyright owner for his or her losses. The Infringement Resolution also provides for the confiscation of "infringing reproductions, illegal income, [and] materials, tools, equipment or other property belonging to the offending entity or individual [that are] used mainly in the crime of copyright infringement . . . ." Although the confiscation of infringing reproductions and production equipment is included among the administrative sanctions that may be imposed under the Copyright Law, the Software Regulations, as enacted, only provide for the confiscation of the illegal income earned from an infringing act and do not specifically provide for the seizure of the infringing software. Because computer programs are entitled to receive protection as literary works, it is possible that an administrative authority could, under the Copyright Law, order the confiscation of infringing software and the

Copyright Law included criminal sanctions of up to two years imprisonment for infringing acts serious enough to "constitute a criminal offense." Draft Copyright Law, supra note 47, at 49.


347. Ma Chenguang, Copyright Violators Face Imprisonment, CHINA DAILY, July 6, 1994, at 1.

348. The Resolution on Punishment of Crimes of Copyright Infringement, translated in CHINA PAT. & TRADEMARKS Q., Oct. 1994, at 90, 90 [hereinafter Infringement Resolution]. The Infringement Resolution was adopted by the Standing Committee of the 8th National People's Congress of the P.R.C. and took effect on July 5, 1994. Id.

349. Id. art. 1(1) at 90.

350. Id. art. 1 at 90.

351. Id. art. 4 at 90.

352. Implementing Regulations, supra note 63, art. 50 at 39.

353. Software Regulations, supra note 48, art. 30 at 63.

354. Copyright Treaties Provisions, supra note 54, art. 7 at 37.
equipment used to produce it; however, it is now clear that infringing software and any equipment used to produce it may be seized under the P.R.C. Criminal Law.\textsuperscript{355} In addition to enhancing the sanctions administrative authorities and courts may order in cases of software copyright infringement, the amendments to the P.R.C. Criminal Law should provide a greater deterrence to software piracy in the P.R.C.

\section*{IV. THE APPLICATION AND ENFORCEMENT OF THE COPYRIGHT LAW AND THE COMPUTER SOFTWARE PROTECTION REGULATIONS}

Under the P.R.C.'s civil law system, the courts are vested with the authority to apply the Copyright Law and the Software Regulations in individual cases; however, the Standing Committee of the National People's Congress, the State Council, and agencies that are legislatively designated as the interpreting authorities are vested with the authority to interpret, administer, and enforce the Copyright Law and the Software Regulations.\textsuperscript{356} In contrast to the U.S. common law system, under which

\begin{itemize}
\item \textsuperscript{355} Infringement Resolution, \textit{supra} note 348, arts. 1(1), 4 at 90.
\item \textsuperscript{356} Under the P.R.C. Constitution, the National People's Congress and its Standing Committee and the State Council are vested with the authority to enact, interpret, and enforce the laws and regulations of the P.R.C. P.R.C. Constitution, \textit{supra} note 63, arts. 62(3), 67(2)-(4), 89(1) at 48-49, 54. Administrative authorities under the State Council and local people's congresses may also issue rules and regulations that implement and comply with laws enacted by the State Council and National People's Congress. \textit{Id.} arts. 90, 99, 100 at 55-57. Because only legislative bodies have the authority to create legal rules in the P.R.C., the people's courts have the authority to hear individual cases, but their decisions do not create legal precedents that are binding in future cases or on other courts or agencies. \textit{See} PHILLIP M. CHEN, \textit{LAW AND JUSTICE: THE LEGAL SYSTEM IN CHINA 2400 B.C. TO 1960 A.D.} 90 (1993). Under this allocation of authority, the Communist Party, which calls the sessions of the National People's Congress and its Standing Committee and nominates government leaders, retains control over the laws of the P.R.C. \textit{Id.} at 113.
\end{itemize}

In general, "[c]opyright administration and enforcement is conducted by the National Copyright Administration (NCA) and by local administrative authorities." Tan Loke Khoon, \textit{Recent Developments in Intellectual Property Law in the People's Republic of China}, 5 EUR. INTELL. PROP. REP. 176, 178 (1993). \textit{See} Software Regulations, \textit{supra} note 48, art. 39 at 66 (providing that "[t]he State Council departments in charge of the administration of software registration and the administration of software copyright shall be responsible for the interpretation of these regulations"). Although the authority to interpret the Software Regulations was initially vested in the Ministry of Machine Building and Electronics Industry (MMEI), which drafted the Software Regulations, the MMEI's authority was transferred to the NCA in an effort to centralize the authority to administer and interpret the P.R.C.'s copyright laws.
the courts have the power to interpret the Copyright Act and to create binding legal doctrine through case law, the P.R.C.'s civil law system limits the courts's authority to interpret the copyright laws and the precedential value of judicial decisions.\(^\text{357}\) After a P.R.C. court has heard the facts and evidence in a particular case, it will often receive\(^\text{358}\) or "seek the opinions of the legislative and administrative" authorities before issuing a ruling.\(^\text{359}\) Although the few court decisions regarding software and other copyright infringements that have been rendered since the Copyright Law and the Software Regulations were enacted serve "only as references and not as binding precedents,"\(^\text{360}\) they do provide an indication of how these laws are being applied by the P.R.C. courts.

The first case to be decided under the Software Regulations involved a dispute between two Beijing-based computer companies in which the defendant was alleged to have distributed the plaintiff's copyrighted software without its permission.\(^\text{361}\) The court found that the defendant had infringed the plaintiff's copyrighted software by distributing it to the public without the plaintiff's authorization and imposed both civil and

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357. Because the P.R.C.'s civil law system relies primarily on statutes and implementing regulations, rather than on case law, as legal authority, "judicial interpretation has only a limited role to play in a property protection system . . . ." Chengsi, supra note 39, at 62. See also Naping Liu, "Legal Precedents" with Chinese Characteristics: Published Cases in the Gazette of the Supreme People's Courts, 5 J. CHINESE L. 107, 108 (stating that court decisions have no real precedential value in the P.R.C.).

358. See Susan Finder, Inside the People's Courts: China's Litigation System and the Resolution of Commercial Disputes, CHINA L. & PRAC., Feb. 1996, at 16, 19. Finder notes that a distinctive aspect of litigating in China is "the possible involvement of Party/government officials in the litigation." Id. "If a case is considered important enough or sensitive enough to merit the involvement of local (provincial, or central) government officials, such officials may make their views known to the relevant court president, vice president, or division chief who in turn will give their views to the judges handling the case . . . ." Id.

359. Zheng Chengsi, Progress and Existing Problems in Copyright Protection in China, CHINA PAT. & TRADEMARKS Q., July 1993, at 73, 73.


administrative sanctions. The court ordered the defendant to cease its infringement, compensate the plaintiff for its economic losses, and pay punitive damages in the form of a fine; however, it did not “order the confiscation of the unlawful income from the sale of the infringing” software. Although the court awarded the plaintiff approximately $7,500, an amount in excess of the infringing sales the plaintiff could establish, the award may have been too small to compensate the plaintiff for its losses and litigation costs or provide an effective deterrent to copyright infringement. Because the Software Regulations do not specify a method of calculating damages or provide a schedule of civil damages or administrative fines, it is difficult to determine how the court actually calculated the damages it awarded to the plaintiff.

In two later cases, the courts awarded more substantial damages to copyright owners whose copyrighted computer programs had been infringed. In the first case, Dong Fang Research Institute v. Heng Kai Electronics Development Company, the court concluded that the

362. Landmark Computer Software Dispute, supra note 361.
363. Id. at 19-20. The defendant was ordered to pay Rmb 46,000 yuan ($5,509) in civil damages, an administrative fine of Rmb 10,000 yuan ($1,198), and auditing and appraisal expenses of Rmb 7,000 yuan ($838). Id. The U.S. Dollar values provided are based on the Yuan-Dollar exchange rate as of April 30, 1996. See supra note 341.
364. China’s First Software Copyright Case Brought to Trial, Xinhua News Agency, Feb. 23, 1993, available in LEXIS, News Library, XINHUA File. The plaintiff’s damages equalled approximately $7,500 at the time they were awarded. Id.
365. Although Zheng Chengsi, one of the P.R.C.’s leading copyright authorities, stated that because the court in this case ordered the defendant to pay damages that were “nearly forty times higher than the amount of infringing sales that could be established,” the plaintiff really did prevail, he also acknowledged that in many cases the prevailing plaintiff’s costs “far exceed [its] damages.” Chengsi, supra note 359, at 74-75. For example, because the laws contain “no provision for the payment by the unsuccessful party of fees incurred by the prevailing party,” the plaintiff in this case was responsible for paying its own attorney’s fees. Id. at 74. The plaintiff was also responsible for paying half of the court costs. Landmark Computer Software Dispute, supra note 361. It appears, however, that some courts may be willing to award attorneys fees and other litigation costs. In one recent case, the Intellectual Property Court of the Beijing Intermediate People’s Court awarded the prevailing plaintiff, Golden Dawn, attorneys fees and investigation costs. See China Golden Dawn Safety Technology Co. v Beijing Shijingshan District Zhiye Electronics Ltd., discussed in Case Digest, CHINA L. & PRAC, April 1994, at 19, 19.
366. Chengsi, supra note 359, at 74. See also MacDonald, supra note 336, at 34.
defendant Heng Kai had copied the plaintiff's software and distributed it as part of its own computer chip system. Although the defendant had only sold twenty-three systems containing copies of the plaintiff's computer program, and the retail price of the plaintiff's program was Rmb 600 yuan ($72), the defendant was ordered to pay the plaintiff Rmb 197,000 ($23,591) for its losses, as well as an administrative fine and court costs. In the second case, Jinchen Company v. Zhiye Company, a defendant found to have made and distributed a single copy of the plaintiff's virus screening program was ordered to pay the plaintiff Rmb 150,000 yuan ($17,963). Even though the plaintiff was unable to show that the defendant's act had caused it serious economic harm, the court determined that the defendant should be compensated for its economic losses, including its loss of good will and its investigation and legal expenses. Although the plaintiffs in these two cases received much larger damage awards than the plaintiff in the first case decided under the Software Regulations received, it remains unclear how the courts in these three cases, without reference to the amount of infringing sales made by the defendants, calculated the amount of damages to be awarded.

Broad Mind Computer Company, a Hong Kong-based manufacturer, was the first foreign software copyright owner to file a claim of software copyright infringement in the P.R.C. Broad Mind alleged that the Beijing-based Hai Wei Electronic Engineering Company sold infringing copies of Broad Mind's copyrighted computer software. The court's final decision has not yet been published; however, Broad Mind has criticized the initial court proceedings and asserted that "the judges and court officials [had] limited knowledge of intellectual property matters and even less knowledge of the technical matters addressed in [its] case." Although Broad Mind was able to submit as evidence a computer terminal and software manufactured by Hai Wei that it had purchased, and to demonstrate that the "bugs" in the Hai Wei terminal and its terminal

368. Id.
369. Id. at 77.
370. See id. (discussing Jinchen Co. v Zhiye Co.).
371. Id.
372. Id.
374. Id.
375. Id.
"could only be identical . . . if Hai Wei had copied [Broad Mind's] software exactly," the court did not accept this evidence as establishing infringement by the defendant.376 The court ordered each party to submit its program's source code; however, Broad Mind does not believe the judges have "a clear understanding of how best to compare the parties' source codes."377 Broad Mind has also stated that the judges "appear unable to render a decision and close the case," and that even if the court finds that Hai Wei infringed Broad Mind's software, a second hearing will have to be held solely for the purpose of calculating damages.378

Although the court hearing Broad Mind's case ordered Broad Mind and the defendant, Hai Wei, to submit their program source codes as evidence, it is not clear what standard of comparison the court will use in making its final determination or what additional evidence may be admissible to prove infringement. The P.R.C. court decisions reported to date have not expressly adopted an infringement standard similar to that of substantial similarity applied by courts in the U.S.379 or otherwise indicated how similar an allegedly infringing program must be to a copyrighted program before infringement will be found. In addition, because the courts, under the Civil Procedure Law of the P.R.C.,380 are responsible for collecting evidence, it is not clear what additional documentary or circumstantial evidence may be admissible to prove infringement. Even where the copyright owner, with the assistance of an organization such as BSA or a local private investigator, has been able to secure evidence of a defendant's infringement, such evidence may not be accepted and admitted by a court.381

The first U.S. software copyright owners to file software copyright infringement claims in the P.R.C. have thus far had considerable cooperation from the Beijing Intermediate People's Court in securing evidence of infringement by the Chinese defendants. In July 1994, Microsoft Corporation, Lotus Development Corporation, Autodesk, Incorporated, and Novell, Incorporated, represented by BSA, filed a

376. Id. Broad Mind also claimed that "the expertise of the computer software registration officials—despite their presence in the courtroom—was under-utilized" because the court had "no formal procedure for calling upon their expert assessment." Id.

377. Id.

378. Id.

379. See supra notes 317-18 and accompanying text.


EVOLUTION AND ENFORCEMENT

Copyright infringement suit in the P.R.C., alleging that the defendants, five Beijing-based computer companies, had committed ten separate acts of copyright infringement and demanding between $10,000 and $30,000 in damages for each infringing act. In order to obtain evidence on which to base its suit, BSA, working with the Intellectual Property Rights Chamber, a judicial authority under the direction of the Beijing Intermediate People's Court, raided the five companies named in the suit and seized more than 300 pieces of software. The raid was seen as an important first step in the U.S. software industry's fight against piracy; however, it took "months of preparation and thousands of dollars to mount." Because few software copyright owners would be able to conduct or finance, and few courts may be willing to permit or participate in, such an investigation, it is likely that most foreign software copyright owners will have to rely on the P.R.C. courts to identify and obtain evidence sufficient to establish infringements of their rights.

Although a foreign software copyright owner whose software has been infringed can expect to experience some difficulties in bringing and ultimately proving his or her claim in a P.R.C. court, the remedies available to copyright owners have been expanded since the adoption of the Copyright Law and the Software Regulations. In addition to amending its criminal law to provide for the seizure of infringing goods and the imposition of criminal penalties for copyright infringement, the P.R.C. recently adopted the Regulations Regarding Customs Protection for Intellectual Property Rights ("Customs Protection Regulations"), which enable a copyright owner to prevent infringing products from being imported to or exported from the P.R.C. The Customs Protection Regulations were issued following the


383. Id.


385. See supra notes 346-51 and accompanying text.

Regulations require the software copyright owner to file a written application with the General Administration of Customs (GAC) to record his or her software copyright.\(^{387}\) When a software copyright owner who has recorded his or her copyright suspects that infringing goods are being imported to or exported from the P.R.C., he or she must notify the appropriate customs office and request that the goods be detained,\(^{388}\) provide information regarding the goods and proof that the goods are infringing,\(^{389}\) and pay a surety.\(^{390}\) Goods that are found to infringe a copyright will be destroyed\(^{391}\) and the importer or exporter of the infringing goods may be fined or subject to criminal penalties.\(^{392}\)

Although neither the Copyright Law nor the Software Regulations address the importation of infringing or unauthorized goods, the Copyright publication, on September 1, 1994, of the State Council's Resolution on Further Strengthening the Work in Intellectual Property Protection, which prohibited "goods infringing on other people's intellectual property rights" from being imported to or exported from the P.R.C. Dr. Ju Shuzhen, Another View on the Enforcement of Protection for Intellectual Property Rights by the Chinese Customs, CHINA PAT. & TRADEMARKS Q., Jan. 1996, at 75, 75. See also Chinese Customs Enforce Measures for Intellectual Property Protection, CHINA PAT. & TRADEMARKS Q., Oct. 1994, at 105, 195. See generally Joseph T. Simone, Jr., A Stronger Front Line, New Customs Regulations May Help China Enforce Intellectual Property Rights, CHINA BUS. REV., March-April 1996, at 29, 29.

\(^{387}\) Customs Protection Regulations, supra note 386, art. 8 at 87-88. A copyright recordation is valid for seven years and may be renewed for additional seven-year periods. \(\text{Id.}\) art 10 at 88.

\(^{388}\) \(\text{Id.}\) art. 12 at 88.

\(^{389}\) \(\text{Id.}\) art. 13 at 88.

\(^{390}\) \(\text{Id.}\) art. 14 at 88. The copyright owner is required to pay a surety equal "to the CIF price of the import goods or the FOB price of the export goods." \(\text{Id.}\) "[W]here the CIF or FOB price cannot be determined, the security [must] be submitted in [an] amount estimated by Customs." Customs Rules, supra note 386, art. 16 at 93.

\(^{391}\) Customs Protection Regulations, supra note 386, art. 24(1) at 89.

\(^{392}\) \(\text{Id.}\) arts. 28-29, 31 at 89-90. A consignee of import goods or a consignor of export goods who "clearly knows or should know that [the] import or export goods infringe on the intellectual property right of another person" or "fails to declare the state of intellectual property right relevant to the import or export goods and submit the relevant documents for examination" may receive a fine of "less than the equivalent of the CIF price of the import goods or the FOB price of the export goods." \(\text{Id.}\) arts. 28-29 at 89-90. Article 31 of the Customs Protection Regulations provides that "[a]nyone who imports or exports infringing goods, constituting a crime, shall be prosecuted for his criminal responsibility according to law." \(\text{Id.}\) art. 31 at 90. This provision has been interpreted as meaning that where the infringement constitutes a crime under the P.R.C. Criminal Law, "Customs will transfer the case to a judicial organ so that the infringer may be prosecuted for his [or her] criminal liability." Shuzhen, supra note 386, at 77.
Treaties Provisions grant a foreign copyright owner the right to prohibit the importation of infringing copies of his or her work or reproductions of the work from a country where it is not protected. In practice, however, this right was difficult to exercise because copyright owners were required to prove that the imported work was, in fact, infringing before P.R.C. Customs authorities would agree to seize it. Although the Customs Protection Regulations still require the copyright owner to submit proof of infringement, it is now clear that P.R.C. Customs may seize goods that it suspects infringe a recorded copyright and detain such goods until they are determined to be non-infringing. In addition to eliminating the software copyright owner’s initial burden of proving the software being imported or exported is infringing, the Customs Protection Regulations bring copyright protection and enforcement in the P.R.C. closer to the levels provided in the U.S., where copyright owners are able to record their registered copyrights with the U.S. Customs Service and request the seizure of imported infringing works.

The P.R.C. government has also attempted to improve the protection of copyrighted works through public education campaigns and special

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393. Copyright Treaties Provisions, supra note 54, art. 15 at 37.
394. Chengsi, supra note 359, at 74.
395. Customs Protection Regulations, supra note 386, art. 18 at 89. Article 18 of the Customs Protection Regulations provides that customs may detain goods “suspected of infringing on an . . . intellectual property right on record at the Customs.” Id. Within fifteen days of the date on which the goods are detained, Customs must begin an investigation to determine whether the goods are in fact infringing. Id. art. 20 at 89. The copyright owner also has fifteen days from the date on which he or she receives written notice from Customs that it has detained the allegedly infringing goods to “submit the infringement dispute to the department responsible for that category of intellectual property . . . or institute proceedings in [a] People’s Court.” Id. art. 17 at 89. Customs may release goods it finds are not infringing, “where [a] decision or ruling of [a] People’s Court eliminates the suspicion of infringement,” “where none of the relevant parties institutes proceedings in [a] People’s Court within the prescribed period of time,” or where the court refuses to accept or hear a case that has been filed. Id. art. 22 at 89. Goods that have been detained may also be released if the consignee or consignor pays “a surety amounting to twice the CIF price of the import goods or the FOB price of the export goods.” Id. art. 19 at 89.
396. 17 U.S.C. § 602 (1994). The U.S. Customs Service is authorized under the U.S. Copyright Act to seize and “forfeit” infringing copies of a copyrighted work imported from abroad. Id. at § 603(c). To receive protection, a copyright owner must submit an application to record his or her copyright registration with the Customs Service, along with a registration certificate from the Copyright Office, a filing fee, and five copies of the copyrighted work. 19 C.F.R. § 133.33 (1995). The Custom Service regulations set forth the complete procedures copyright owners who wish to request the seizure of infringing goods must follow.
training courses for judges, employees of the National Copyright Administration, and local administrative authorities responsible for copyright affairs.\textsuperscript{397} An Intellectual Property Training Center has also been established at the Chinese People's University to provide education and on-going training to copyright professionals.\textsuperscript{398} Although such measures may not prevent further instances of copyright piracy, assuring the proper training of judges and other officials, whose knowledge of intellectual property law and the often highly technical matters involved in cases of software copyright infringement has been criticized,\textsuperscript{399} should improve the adjudication of copyright infringement claims in the P.R.C. Copyright cases decided by the courts and the recent raids made by BSA on infringing companies have been highly publicized in the P.R.C. and this publicity, along with government sponsored educational opportunities, should continue to raise public awareness and understanding of copyright law in the P.R.C.

V. PROPOSED SOLUTIONS TO THE PROBLEM OF ENFORCEMENT

As this analysis of the P.R.C.'s system of computer software copyright protection has shown, the Copyright Law and the Software Regulations are not without deficiencies. Although these deficiencies have led to criticism of the P.R.C.'s copyright laws as inadequate, many of the omissions and inconsistencies found in the Copyright Law and the Software Regulations, as enacted, have been either expressly\textsuperscript{400} or effectively eliminated by the P.R.C.'s accession to the Berne Convention.\textsuperscript{401} Despite the fact that the Copyright Law and the Software Regulations are generally consistent with U.S. copyright law and conform to international norms established under the Berne Convention, the problem of adequately enforcing these laws remains and the amount of software and other copyright piracy occurring in the P.R.C. continues to increase. Although the protection of computer software copyright in the P.R.C. should improve as more copyright owners seek to enforce their rights and the P.R.C. courts gain experience in deciding copyright infringement claims, the resolution of individual cases cannot alone lead

\textsuperscript{397} Rengan, \textit{supra} note 115, at 96.


\textsuperscript{399} \textit{Testing Protection}, \textit{supra} note 373.

\textsuperscript{400} \textit{See generally} Copyright Treaties Provisions, \textit{supra} note 54.

\textsuperscript{401} General Principles of Civil Law, \textit{supra} note 67, at art. 142.
to the uniform and systematic enforcement of computer software copyright that is needed in the P.R.C. International efforts to improve the enforcement of computer program copyright in the P.R.C. and other countries have therefore focused on amending the Berne Convention to expressly provide protection for computer software and on including intellectual property in the GATT to provide a mechanism for enforcing and resolving disputes regarding international copyright protection.

Within the copyright system, international efforts to strengthen the copyright protection afforded to computer software have centered on the Berne Convention. Because computer software is not included among the examples of works eligible for protection under the Berne Convention, a protocol to the Berne Convention clarifying the status of computer software and the related obligations of Berne Union countries was proposed and considered by several Berne Union countries in 1991. Although the Berne Convention simply requires that Berne Union countries protect the "rights of authors in their literary and artistic works," the expression "literary and artistic works" is defined to include "every production in the literary, scientific, and artistic domain, whatever may be the mode or form of its expression." Based on this broad definition and the fact that the list of examples of works eligible for protection under the Berne Convention, introduced by the words "such as," is considered to be non-exhaustive, the text of the Berne Convention is generally seen as broad enough to include computer software as a protected work.

Many Berne Union countries currently protect computer programs as literary works; however, the Berne Convention, interpreted literally, does not require member countries "to protect computer software as literary or artistic works or if they do to accord national treatment to the software of persons claiming under the Convention." Because copyright protection under the Berne Convention is based on the principle of national treatment, Berne Union countries that include computer software as a protected work.### Footnotes

402. Berne Convention, supra note 11, art. 2 at 1.
404. Berne Convention, supra note 11, art. 1 at 1.
405. Id. art. 2(1) at 1.
406. Id.
408. Id. at 900.
409. Berne Convention, supra note 11, art. 5(1) at 2.
copyrightable subject matter are obligated to protect software developed by residents of Berne Union countries in the same manner as they protect software developed by their own nationals, even when the Berne Union country in which the software was developed does not afford such protection to its own nationals or reciprocally to residents of other Berne Union countries. Although the adoption of a software-specific protocol requiring all Berne Union countries to recognize the copyrightability of computer software would ensure its uniform protection internationally, the P.R.C. already recognizes computer software as a copyrightable subject matter and, with the exception granting software a shorter term of protection, provides the minimum protection required by the Berne Convention. The adoption of a software protocol to the Berne Convention would therefore not significantly improve the protection and enforcement of computer software copyright in the P.R.C.

As the status of computer software under the Berne Convention continues to be debated, many nations, including the U.S., have looked beyond the realm of copyright law for a means of improving the enforcement of copyright in the P.R.C. and internationally. Due to the inconsistency in the protection accorded to computer software copyright by Berne Union countries and the limited nature of the dispute resolution provisions of the Berne Convention, the U.S. and other nations have attempted to improve the protection of intellectual property through bilateral trade negotiations and international trade agreements. The

410. Article 7 of the Berne Convention provides that "the term of protection granted by this Convention shall be the life of the author and fifty years after his death." Id. art. 7 at 4. The maximum term of copyright protection available to computer software in the P.R.C. is fifty years. Software Regulations, supra note 48, art. 15 at 59; Copyright Treaties Provisions, supra note 54, art. 7 at 37. However, computer programs, as literary works, should be entitled to receive copyright protection under Article 21 of the Copyright Law for a period equal to the "author's lifetime and 50 years after the author's death." Copyright Law, supra note 1, art. 21 at 31. Although the Software Regulations also fail to grant software copyright owners the moral right of integrity, this omission is arguably cured by the fact that, under Article 7 of the Copyright Treaties Provisions, computer programs are entitled to protection as literary works under the Copyright Law and Article 10(iv) of the Copyright Law grants the right of integrity to literary works. Copyright Treaties Provisions, supra note 54, art. 7 at 37; Copyright Law, supra note 1, art. 10(vi) at 28.

411. See Berne Convention, supra note 11, art. 33 at 15. Article 33 of the Berne Convention provides that "[a]ny disputes between two or more countries of the Union concerning the interpretation or application of this Convention, not settled by negotiation, may be brought before the International Court of Justice . . . unless the countries concerned agree on some other method of dispute resolution." Id.

412. For example, the U.S. has negotiated bilateral agreements with the P.R.C.
increasing amount of U.S. exports that are dependent on intellectual property and the significant losses sustained by U.S. companies due to its inadequate protection in the P.R.C. and other countries led the U.S. to seek a comprehensive agreement regarding intellectual property rights under the GATT. Negotiations for the inclusion of intellectual property under the GATT were successfully introduced in 1986 during the Uruguay Round of trade discussions and resulted in the adoption of the TRIPS Agreement. The TRIPS Agreement, which took effect in the U.S. on January 1, 1996, incorporates the Berne Convention’s minimum standards of protection as the GATT intellectual property rights standard and, more importantly, explicitly requires WTO member countries to protect computer programs as literary works under the Berne Convention.

In addition to recognizing and protecting computer programs as literary works, the TRIPS Agreement contains enforcement mechanisms and dispute settlement provisions that would allow specific action to be taken against Contracting Parties that fail to adequately protect computer

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416. TRIPS Agreement, supra note 13, art. 10 at 370-71. Article 9 of the TRIPS Agreement provides that “Members shall comply with Articles 1 through 21 of the Berne Convention (1971) and the Appendix thereto.” Id. art. 9(1) at 370. It does not require GATT members to protect the moral rights conferred under Article 6bis of the Berne Convention. Id.
software.\textsuperscript{417} Because the P.R.C. is actively seeking admission to the WTO,\textsuperscript{418} the TRIPS Agreement may have a significant effect on the enforcement of software copyright in the P.R.C. For example, the anti-counterfeiting provisions of the TRIPS Agreement require Contracting Parties to provide criminal sanctions in cases of willful copyright piracy on a commercial scale\textsuperscript{419} and to permit copyright owners to apply for the suspension of the release of goods that are suspected to be infringing.\textsuperscript{420} The P.R.C. recognizes that to gain admission to the WTO it must bring its copyright laws into compliance with the TRIPS Agreement,\textsuperscript{421} and its recent authorization of criminal sanctions for copyright infringement and customs inspections and seizures targeting copyright piracy may have been prompted by a desire to comply with the anti-counterfeiting provisions of the TRIPS Agreement.

Although more than eight years have passed since the P.R.C. announced its intention to seek admission to the WTO,\textsuperscript{422} the P.R.C.'s application for accession has yet to be approved. While the U.S. has stated that it "would support China's entry into GATT . . . [if it meets] . . . all of the organization's criteria for entry," \textsuperscript{423} it continues to oppose the P.R.C.'s admission. Recognizing that its ability to stall the P.R.C.'s admission to the WTO is its most valuable bargaining tool, the U.S. has conditioned its approval of WTO admission on the P.R.C.'s willingness to provide expanded market access and greater protection for U.S. intellectual property in the P.R.C.\textsuperscript{424} Although the U.S. continues to challenge the P.R.C. government's assurances that the P.R.C. is capable of fully complying with the terms of GATT 1994 and the TRIPS Agreement,\textsuperscript{425} granting the P.R.C.'s admission to the WTO may prove to

\textsuperscript{417} See TRIPS Agreement, supra note 13, arts. 63-64 at 397-98; Dispute Settlement Rules, supra note 13.

\textsuperscript{418} See John Wong, China Still Out of WTO, BUS. TIMES, Sept. 30, 1995, at 10.

\textsuperscript{419} TRIPS Agreement, supra note 13, art. 61 at 395-96.

\textsuperscript{420} Id. arts. 52-56 at 393-94.

\textsuperscript{421} Gao Lulin, A Preliminary Analysis of the TRIPS Negotiations of the Uruguay Round of GATT, CHINA PAT. & TRADEMARKS Q., Jan. 1993, at 8, 16.


\textsuperscript{424} Id.

\textsuperscript{425} Id.
be the best long-term solution to the problem of software copyright enforcement in the P.R.C. The benefit of permanent most-favored nation trading status from all WTO member nations and long-term entry of its products into the international market are clearly strong incentives for the P.R.C. to improve its enforcement of its copyright laws.

In addition to using the P.R.C.'s desire to be admitted to the WTO as a basis for negotiating improvements in the P.R.C.'s enforcement of its copyright laws, the U.S. has also achieved solutions, albeit temporary, to specific problems in the P.R.C.'s copyright laws and their enforcement through the so-called Special 301 provisions of the Omnibus Trade and Competitiveness Act of 1988. Section 301 the Act authorizes the U.S. Trade Representative (USTR) to identify foreign countries that deny "adequate and effective protection of intellectual property rights" or "fair and equitable market access to U.S. persons who rely upon intellectual property protection." A country identified by the USTR under Section 301 is designated as a "priority foreign country" if it fails to enter into good faith negotiations to provide adequate and effective protection and its acts, practices, or policies are egregious and have an adverse economic impact on the U.S. A country that provides inadequate protection but whose acts are less egregious is designated as a "priority watch country" and placed on a "priority watch list." The acts, practices, and policies of a "priority foreign country" are investigated by the USTR for a period of six to nine months. After an investigation

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426. See General Agreement on Tariffs and Trade (as amended through 1994), art. I, reprinted in RESULTS OF THE URUGUAY ROUND, supra note 13, at 486. The TRIPS Agreement provides most-favored nation treatment for intellectual property rights. TRIPS Agreement, supra note 13, art. 4 at 369. Article 4 of the TRIPS Agreement provides:

With regard to the protection of intellectual property, any advantage, favour, privilege or immunity granted by a Member to the nationals of any other country shall be accorded immediately and unconditionally to the nationals of all other Members.

Id.


429. Id. at § 2242(a)(1)(B).

430. Id. at § 2242(b)(1)(A)-(C).

431. Id. at §§ 2412 (b)(2)(A), 2414 (a)(2)(A)-(B).

432. Id. at § 2414(a)(3)(A).
has been conducted, the USTR may impose sanctions on a country that has failed to improve its protection and enforcement of intellectual property rights.\textsuperscript{433}

Since 1989, the U.S. has successfully used the threat of trade sanctions under Section 301 to secure promises of improved intellectual property protection and enforcement from the P.R.C. government.\textsuperscript{434} However, after being named a "priority foreign country" in 1994,\textsuperscript{435} the P.R.C. was unable to reach an agreement with the U.S. before the six month investigation period expired. Although the U.S. agreed to extend the investigation for an additional month, in February 1995, the Clinton Administration "imposed punitive tariffs on more than $1 billion of Chinese goods, the largest trade sanctions in American history."\textsuperscript{436}

Contentious negotiations continued throughout February 1995 until, some ten hours after the tariffs were to take effect, the U.S. and the P.R.C.

\begin{itemize}
\item \textsuperscript{433} Id. at § 2416(b). The sanctions that may be imposed include increased duties or the placement of other restrictions on imports. \textit{Id}.
\item \textsuperscript{434} The P.R.C. has a long history of being subjected to threats of sanctions under Section 301. Following the enactment of the Copyright Law in 1991, the P.R.C. was elevated to the status of "priority foreign country" because of the requirement of first publication in the P.R.C. imposed on foreign works under the Copyright Law and the inadequate copyright protection provided to U.S. computer programs under the Software Regulations. \textit{See USTR Designates China, India, and Thailand Most Egregious Violators Under Special 301}, 8 Int'l Trade Rep. (BNA) No. 18, at 643 (May 1, 1991). The designation of the P.R.C. as a "priority foreign country" led to the signing of the 1992 Memorandum of Understanding, under which the P.R.C agreed to protect computer programs as literary works and to extend copyright protection to all foreign works by acceding to the Berne Convention. \textit{See U.S.-China Intellectual Property Accord Ends Threat of U.S. Retaliatory Duties}, 9 Int'l Trade Rep. (BNA) No. 4, at 139 (Jan. 22, 1992).
\item In 1993, China was again placed on the "priority watch" list. \textit{USTR Fact Sheet on Special 301 Released April 30, 1993}, 10 Int'l Trade Rep. (BNA) No. 18, at 749 (May 5, 1993). Then U.S. Trade Representative Mickey Kantor stated that "while China has made progress in changing its laws and regulations to conform with a January 1992 memorandum of understanding . . . and has joined international conventions protecting intellectual property, it fails to enforce these laws and regulations." \textit{U.S. Decision to Place China on Priority Watch List Criticized}, 10 Int'l Trade Rep. (BNA) No. 48, at 2062 (Dec. 8, 1993). In July 1994, the P.R.C. was elevated to "priority foreign country" status; however, no trade sanctions were announced until February, 1995. \textit{See U.S., China Announce Trade Sanctions in Dispute over Copyright Protection}, 12 Int'l Trade Rep. (BNA) No. 6, at 250, 251-52 (Feb. 8, 1995).
\item \textsuperscript{435} \textit{USTR Identifies China as Special 301 'Priority' Country}, 48 Pat. Trademark & Copyright J. (BNA) No. 1187, at 243, 254 (July 14, 1994).
\end{itemize}
reached a final agreement.\footnote{Seth Faison, \textit{U.S. and China Sign Accord to End Piracy of Software, Music Recordings and Film}, \textit{N.Y. Times}, Feb. 27, 1995, at A1, D6.} Then Deputy U.S. Trade Representative Charlene Barshefsky described the agreement as the "single most comprehensive and detailed [intellectual property rights] enforcement agreement the U.S. has ever concluded."\footnote{China Averts Trade War with the U.S., Promising a Campaign Against Piracy, \textit{Wall St. J.}, Feb. 27, 1996, at A3.}

Unlike previous agreements between the P.R.C. and the U.S., the agreement concluded in 1995, referred to as the State Council Action Plan for Effective Protection and Enforcement of Intellectual Property ("Enforcement Action Plan"),\footnote{State Council Action Plan for Effective Protection and Enforcement of Intellectual Property, Feb. 26, 1995, U.S.-P.R.C. (available in the Office of the U.S. Trade Representative, Washington, D.C.) \textit{[hereinafter the Enforcement Action Plan].}} provides a detailed structure for the enforcement of intellectual property rights in the P.R.C. The eight-point Enforcement Action Plan called for a special six month enforcement period and the immediate establishment of task forces with the authority to search for, seize, and destroy pirated computer software and the equipment used to manufacture it.\footnote{Id. at 4-7.} It also contained several provisions designed to ensure the P.R.C.'s long-term enforcement of intellectual property rights. For example, the Enforcement Action Plan provided for the regular inspection of companies that "commercially reproduce, wholesale, retail, or rent out computer software,"\footnote{Id. at 10.} the creation of a identification verification system for all CDs and CD-ROMs,\footnote{Id. at 18-19.} and the enhancement of the customs offices's authority to seize and destroy infringing goods.\footnote{Id. at 15-18.} The P.R.C. also agreed to establish a reporting system, under which the U.S. is to be provided with statistics concerning the P.R.C.'s enforcement efforts,\footnote{Letter from Wu Yi, Minister of Foreign Trade and Economic Cooperation, P.R.C., to Michael Kantor, United States Trade Representative, Feb. 26, 1995, summarizing the terms of and annexed to the State Council Action Plan for Effective Protection and Enforcement of Intellectual Property Rights, at 4 (available in the Office of the U.S. Trade Representative, Washington, D.C.).} and to provide U.S. copyright owners with greater access to the P.R.C. market and more effective judicial relief.\footnote{Id. at 2.}
Although the P.R.C. Customs Protection Regulations allow customs officials to seize and destroy infringing software that is imported to or exported from the P.R.C., acting USTR Charlene Barshefsky, who negotiated the Enforcement Action Plan in 1995, has stated that the Customs Protection Regulations “fall short of the agreement’s requirements.”\textsuperscript{446} According to Barshefsky, the P.R.C. has also failed to implement the provisions of the Enforcement Action Plan requiring it to “shut down pirate compact disk production,” “implement a title verification system,” and “imprint codes on CDs and CD-ROMs.”\textsuperscript{447} Although the P.R.C. claims that the special task forces called for under the Enforcement Action Plan have been established and that raids on copyright pirates have been carried out,\textsuperscript{448} Barshefsky announced on May 1, 1996 that the P.R.C. had again been identified under Section 301 as a priority foreign country.\textsuperscript{449} Eight days later, President Clinton approved the imposition of nearly $3 billion in sanctions on P.R.C. goods.\textsuperscript{450} As one commentator appropriately noted, the U.S. seems to “be in a destructive routine” with the P.R.C: the U.S. “accuse[s] the Chinese, they balk, [it] threaten[s] sanctions, they threaten retaliation.”\textsuperscript{451} Although the threat of trade sanctions under Section 301 has lead to specific improvements in the P.R.C.’s protection of copyrighted software and other works, the P.R.C.’s history of failing to fulfill its obligations under its trade agreements with the U.S. would indicate that the mere “threat” of sanctions may no longer be even a short-term solution to the problem of copyright enforcement in the P.R.C.

VI. CONCLUSION

As this analysis of the P.R.C.’s copyright laws has shown, the problem of computer software piracy cannot be attributed solely to the inadequacy of the P.R.C.’s copyright laws. The protection provided to computer programs under the Copyright Law and the Software Regulations


\textsuperscript{447} Id. at 148.

\textsuperscript{448} Faison, supra note 3, at A6.

\textsuperscript{449} USTR Fact Sheet on Special 301 Findings: Released April 30, 1996, 13 Int’l Trade Rep. (BNA) No. 17, at 736 (May 1, 1996).


is, in principle, equivalent to that provided under U.S. copyright law. However, until claims of copyright infringement by foreign copyright owners have been heard in and decided by P.R.C. courts, the adequacy of judicial enforcement of the copyright laws cannot be fully determined. It should, in any case, be acknowledged that the P.R.C., as a country that until recently did not legally recognize copyright, has made significant progress toward establishing copyright laws that protect the rights of both Chinese and foreign copyright owners.

Despite the P.R.C.'s legislative progress, the dramatic rise in copyright piracy that has occurred since the adoption of the Copyright Law and the Software Regulations leaves little doubt that the P.R.C has failed to adequately enforce its laws. While the P.R.C. government has, in recent years, become more willing to acknowledge that copyright piracy is a serious problem in the P.R.C., it continues to deny adequate copyright protection to computer software and other copyrighted works. Bilateral agreements between the U.S. and the P.R.C. and threats of trade sanctions under Section 301 have brought about specific improvements in the P.R.C.'s copyright laws; however, neither approach appears to be a long-term solution to the problem of copyright enforcement in the P.R.C.

The P.R.C.'s desire to be admitted to the WTO creates strong incentives for the P.R.C. to begin to fully enforce its copyright laws. In addition to having to bring its copyright and other intellectual property laws into compliance with the TRIPS Agreement, the P.R.C. would be subject to multilateral, as opposed to unilateral, enforcement action. Because the P.R.C. is most likely to improve enforcement of computer program copyright when it is in its best economic interest to do so, continued political pressure and enforcement oversight from the U.S., together with the promise of full participation in the global economy through admission to the WTO, appears to be the most effective way of ensuring that the P.R.C. enforces its copyright laws.

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