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THE PROTECTION OF COMPUTER SOFTWARE IN THE PEOPLE'S REPUBLIC OF CHINA: CURRENT LAW & CASE DEVELOPMENTS IN THE "ONE-COPY" COUNTRY†

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I. INTRODUCTION

The economy of the People's Republic of China ("China" or "PRC") has grown tremendously since the introduction of market-oriented reforms in the late 1970s. During this time, and largely as a consequence of foreign pressure, the PRC has markedly improved its intellectual property regime. However, despite overall progress and increased pro-

† The Software Publishers Association (SPA) recently named China a "one-copy" country because the rate of computer software piracy there is so high that "virtually a single legitimate copy of software could satisfy the entire country's demand." SPA, China and Russia Again Named "One Copy" Countries by SPA in Special 301 Report, News Release, Feb. 20, 1996 at 1, available at: Anti-Piracy Home Page, URL: http://www.spa.org/piracy/homepage.htm.

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1. See KENNETH LIEBERTHAL, GOVERNING CHINA FROM REVOLUTION THROUGH REFORM 243-59 (1995) (describing economic reforms implemented under Deng Xiaoping's leadership); The All-Around Growth of People's Courts in China's Era of Reform and Opening Up-Interview Given by Ren Jianxin, President of China's Supreme People's Court, 2 CHINA L. 49, 52 (1995) [hereinafter Ren Jianxin Interview] (reporting that China's GNP has increased twelve-fold since 1978).


tection of intellectual property rights in general, China's efforts to combat the illicit reproduction of computer software have yet to bear fruit.\footnote{See, e.g., Simon Beck, USA: Pirate Trade in U.S. Goods Leads Talks to Flashpoint, SOUTH CHINA MORNING POST, Nov. 6, 1995, available in LEXIS, NEWS library, ASIAPC file (reporting that US and China are on "collision course on trade over Beijing's failure to stop piracy"); Business Software Alliance, Annual Survey: The Impact of Software Piracy on the International Marketplace, April 1, 1995, at 3 (table) (noting that piracy rate in China is estimated at 98%); Business Software Alliance, Counterfeit Software—A Global Threat, Fact Sheet, Nov. 1995 (stating that investigations confirm that 18 of 28 CD-ROM manufacturing plants in China continue to produce pirated goods despite US-PRC IPR agreement); Robert W. Holleyman II, Testimony Before the Senate Subcommittee on East Asian & Pacific Affairs Regarding the Progress of the Intellectual Property Agreement Between the People's Republic of China & the United States (Nov. 29, 1995) 1 [hereinafter Holleyman Testimony] (copy on file with J. MARSHALL J. COMPUTER & INFO. L.) (declaring that "IPR agreement... with China... has yet to make a significant dent in the enormous rate of piracy"); Steven Mufson, In Fight for Intellectual Property Rights in China, Pirates Still Winning, WASH. POST, Feb. 18, 1996, at A29 (reporting on increase in bootlegged computer software).} Chinese software pirates continue to flood world markets\footnote{According to the president of the Business Software Alliance, a software industry trade organization devoted to combating software piracy throughout the globe, "China [is] undoubtedly the biggest exporter of pirated software in the world." Reuter Textline, Hong Kong: Pirated PC Software Flooding Out of China, REUTER NEWS SERVICE-FAR EAST, Nov. 9, 1995, available in LEXIS, NEWS library, ASIAPC file. Counterfeit Chinese software is reportedly sold as far away as Latin America, Canada, and the U.S. USTR, United States and China Reach Accord on Protection of Intellectual Property Rights, Market Access, Press Release 95-12, Feb. 26, 1995, at 4, available from USTR Fax Retrieval System (202) 395-4809.} with "compilation" CD-ROM disks loaded with thousands of dollars worth of illegally copied software applications.\footnote{See, e.g., Amy Borrus, et al., Counterfeit Disks, Suspect Enforcement, BUS. WEEK, Sept. 18, 1995, at 29 (stating that "plunging prices throughout Asia of 'compilation' CD-ROMs indicate that Chinese counterfeiters are going strong"); Counterfeit Software—A Global Threat, supra note 4, at 1 (noting prevalence of compilation disk manufacturing); Economist Intelligence Unit, Software Piracy Still Critical, Despite Sino-US Pact, BUS. CHINA, Sept. 18, 1995 (reporting that compilation CD-ROMs "continue to be widely distributed in China and abroad"); Mufson, supra note 4, at A29 (discussing increased sales of CDS containing "60 to 70 software programs"). A compilation disk can contain up to hundreds of computer programs with total values exceeding $10,000-$20,000. Counterfeit Software—A Global Threat, supra note 4, at 1. At current prices these compilations sell in Asia for approximately six to ten American dollars each. Id. See Borrus, supra, at 29 (quoting a Business Software Alliance officer for proposition that while compilations now sell for $6.50, one year ago such programs sold for $100 in Hong Kong).} Far from heaping praise on the PRC, patent law, later amended in 1993. Zhonghua Renmin Gongheguo Zhuanlifa (1992 Nian Xiuding Ben) [Patent Law of the People's Republic of China (1992 Revision)], translated in CHINA LAWS FOR FOREIGN BUS.: BUS. REG. (CCH Aus.) 14,201 (1993); see WILLIAM P. ALFORD, To STEAL A BOOK IS AN ELEGANT OFFENSE 1 (1995) (discussing efforts to protect intellectual property in PRC); JAMIE VEPSALAINEN, FOREIGN INVESTMENT IN THE PEOPLE'S REPUBLIC OF CHINA 272-73 (1989) (stating that PRC has made significant strides toward protecting intellectual property since introducing an "open-door policy").
groups representing foreign software developers repeatedly have urged China's leaders to improve and expand enforcement efforts and to close the legal loopholes that allow piracy to flourish.\textsuperscript{7}

This article examines the current status of the protection of computer software in mainland China, and concludes that while China has made recent progress, there is still much work to be done. Part II surveys the various PRC laws governing rights in computer software and briefly examines China's obligations to protect computer programs under the international treaties to which it is a party. Part III reviews several important software infringement cases which have been resolved in China's courts. Finally, Part IV concludes with a discussion of the primary obstacles standing in the way of more effective protection for computer software rights in the PRC.

II. THE BASIC FRAMEWORK FOR THE PROTECTION OF COMPUTER SOFTWARE RIGHTS IN THE PRC

A. The Copyright Law

China protects computer software under copyright,\textsuperscript{8} as do many other countries.\textsuperscript{9} Yet, because the PRC never developed a copyright law in the years since its founding, it was impossible to implement rules protecting computer software as copyrightable material until 1991, when

\textsuperscript{7} See International Intellectual Property Alliance, People's Republic of China (excerpt from Feb. 20, 1996 “Special 301” submission to USTR) 2, 8-10 (copy on file with J. MARSHALL J. COMPUTER & INFO. L.) (urging PRC to impose criminal penalties on infringers, “take action against [pirate] CD plants” and “make good on its commitment to purchase legal software within government ministries”); Holleyman Testimony, supra note 4, at 3 (stating that illegal exports will continue to flood out of China “until the Chinese Government makes a decision to focus substantial time and resources on this problem”). One such organization, the Business Software Alliance (“BSA”), was formed by a number of leading software companies in 1988 “in an effort to increase the legitimate market for software and discourage the abuse of copyright protection around the world.” Business Software Alliance, BSA World Wide Report, at 1, available at http://www.bsa.org/bsa/docs/bsawwrpt.html. The BSA’s international mission is to advance world trade in “legitimate business software by advancing strong intellectual property protection for software, increasing public awareness of the legal protection of software, and acting against unauthorized software copying in all forms.” Id.

\textsuperscript{8} See infra note 27 and accompanying text (describing use of copyright to protect computer software in PRC).

China's first copyright law went into effect.\textsuperscript{10} Chinese legislators and bureaucrats first began work on the copyright framework in 1979,\textsuperscript{11} but the task of drafting a copyright law proceeded quite slowly.\textsuperscript{12} The initial groundwork for the protection of copyrightable material can be found in both the 1982 Constitution,\textsuperscript{13} and the 1986 law entitled "General Principles of the Civil Law."\textsuperscript{14} The latter states that Chinese citizens and legal persons are entitled to rights of authorship,\textsuperscript{15} and permits authors to institute copyright infringement actions seeking compensation from, or injunctions against, those committing infringing activities.\textsuperscript{16}

The long-awaited Copyright Law of the PRC, issued in September 1990,\textsuperscript{17} and effective June 1, 1991,\textsuperscript{18} became the first Chinese law expressly providing protection to developers of computer software.\textsuperscript{19} According to its own text, the Copyright Law seeks to "protect the copyright of authors of literary, artistic, and scientific works . . . to safeguard their copyright-related interests, [and] to encourage the creation . . . of works which contribute to the development of socialism . . . and to promote the development and prosperity of socialism's cultural and scientific institutions."\textsuperscript{20} Despite this broad statement of purpose, protections afforded by the Copyright Law are far from ideal. For the foreign copyright holder, the most inequitable aspect of the law is that it grants protection

\begin{thebibliography}{9}
\bibitem{11} \textit{Alford, supra} note 3, at 76.
\bibitem{12} See \textit{id.} (stating that "efforts to develop a copyright law . . . took 'a road as tortuous as that of Chinese intellectuals'"(quoting the former head of the Committee on Legal Affairs of the National People's Congress)).
\bibitem{15} \textit{Id.} art. 94.
\bibitem{16} \textit{Id.} art. 118.
\bibitem{17} Copyright Law of the PRC, \textit{supra} note 10, at 14,561.
\bibitem{18} \textit{Id.} art. 56.
\bibitem{19} \textit{Id.} art. 3, ¶ (8).
\bibitem{20} \textit{Id.} art. 1.
\end{thebibliography}
to Chinese authors whether their works are published in China or not,\textsuperscript{21} while works by foreign authors enjoy copyright protection only if they "are first published within Chinese territory."\textsuperscript{22}

Article 3 of the Copyright Law expressly states that computer software is copyrightable material,\textsuperscript{23} however, Article 53 provides that separate legislation will deal with the particulars of "protective measures for computer software."\textsuperscript{24} Thus, while the Copyright Law contains provisions generally applicable to all copyrightable works, including computer programs, specific aspects of software protection are treated separately.\textsuperscript{25} On May 24, 1991, the Chinese government, in fulfillment of its pledge under Article 53, issued the PRC's Computer Software Protection Rules ("Rules").\textsuperscript{26}

B. THE COMPUTER SOFTWARE PROTECTION RULES

Although the State Council initially decided that software should be protected under the Copyright Law,\textsuperscript{27} many of the legal and technical

\begin{itemize}
  \item[21.] Copyright Law of the PRC, supra note 10, art. 2. The law states, "[w]orks of Chinese citizens . . . shall enjoy copyright protection . . . whether or not the[ir] works are published." \textit{Id.}
  \item[22.] \textit{Id.} According to Article 2:
  \begin{enumerate}
    \item Works of foreigners that are first published in Chinese territory shall enjoy copyright protection pursuant to this Law.
    \item Works of foreigners published outside China . . . shall enjoy copyright protection in accordance with agreements signed between China and the relevant country or international treaties to which they are joint participants and shall receive protection pursuant to this law.
  \end{enumerate}
  \textit{Id.} The general rule discussed above can, however, be avoided by authors who gain protection from international copyright conventions and treaties to which both their home country and China are signatories. \textit{See infra} notes 59-63 and accompanying text (discussing regulations implementing international treaties).
  \item[23.] Copyright Law of the PRC, supra note 10, art. 3, ¶ (8). This section includes computer software within the definition of works entitled to copyright protection. \textit{Id.}
  \item[24.] \textit{Id.} art. 53.
    \begin{quote}
    These rules were formulated in accordance with the Copyright Law of the [PRC] to protect the rights of persons holding computer software copyright, to regulate the beneficial impact occurring from the development, transmission and usage of computer software, to encourage the development and circulation of computer software and to promote the expansion of undertakings using computers.
    \end{quote}
    Computer Software Protection Rules, art. 1.
  \item[27.] Copyright Law of the PRC, supra note 10, art. 3. This section provides that: "In this Law, 'works' shall include the following . . . (8) computer software." \textit{Id.} art. 3, ¶ (8). Although the PRC's Copyright Law treats software as copyrightable matter, it does not,
authorities involved in the drafting effort pushed for the creation of a separate framework for the protection of computer software. As the final result demonstrates, the experts were only partially successful in their efforts. Thus, even though separate rules were promulgated for computer software protection, they were enacted under, and as a supplement to, the Copyright Law. Despite the fact that the Computer Software Protection Rules and Measures for Registration represent an important movement toward the protection of intellectual property rights in computer software, the apparently broad declaration of rights embodied therein is, in fact, subject to numerous and not insignificant qualifications. This is particularly true regarding the protection of foreign-owned software rights. Moreover, as under the Copyright Law, Chinese citizens attain copyright protection whether they release their software in China or not, while foreigners must release their programs in China in order to gain protection.

The Rules enumerate specific rights of software copyright holders, including the rights of publication, acknowledgment, usage, licensing, and assignment. In addition, the Rules provide guidance relating to rights to software developed by two or more entities or individuals


28. ZHENG CHENGSI & MICHAEL PENDLETON, COPYRIGHT LAW IN CHINA 194 (1992); see Copyright Law of the PRC, supra note 10, art. 53 (noting that separate legislation will deal with particulars of computer software protection); Pun, supra note 27, at 227 (concluding that this decision was incorporated "to a certain extent" in the regulations).

29. ALFORD, supra note 3, at 80; see Tan Loke Khoon, Recent Developments in Intellectual Property Law in the People's Republic of China, 5 EUR. INTELL. PROP. L. REV. 176, 178 (1993) (finding that China's computer software protection framework provides "first comprehensive means of protecting and registering" software in China, but noting that computer software registration requirement under Chinese copyright law "is inconsistent with the Berne Convention prohibition on imposition of formalities as pre-condition for protection").

30. This same concern was identified with reference to the protection of foreign copyrights under PRC laws. For more on this topic, see ALFORD, supra note 3, at 80; ZHENG & PENDLETON, supra note 28, at 112-14 (arguing that foreign copyright holders enjoy greater protection under PRC law than under the laws of most other nations).

31. Copyright Law of the PRC, supra note 10, art. 2.

32. Computer Software Protection Rules, supra note 26, art. 6.

33. Id. art. 9, ¶¶ (1)-(5).

34. Id. ¶ (1).

35. Id. ¶ (2).

36. Computer Software Protection Rules, supra note 26, art. 9, ¶ (3).

37. Id. ¶ (4).

38. Id. ¶ (5).
working jointly, address rights for parties who work on commission to develop software applications, and for those who develop programs as part of their work for a particular work unit or government entity.

The Rules create a twenty-five year protection period for copyrighted software, and allow a one-time extension of a registered software copyright for an additional twenty-five years. Although China recently agreed to increase copyright protection for software to a period of fifty years, authorities have yet to amend the relevant provision of the software protection rules to discharge this obligation.

It is also noteworthy that the Computer Software Protection Rules allow state authorities to make a limited number of copies of computer programs in their possession, if necessary, to execute official non-commercial functions. The unnecessarily broad language of this provision allows the Chinese government to limit its cost exposure by reaping considerable savings from the purchase of just one copy of a computer program, a fact which greatly concerns foreign software manufacturers.

39. Id. art. 11. This provision apparently does not apply to software developed by one or more persons or entities not of Chinese origin.

40. Computer Software Protection Rules, supra note 26, art. 12.

41. Id. art. 13.

42. Id. art. 15. Note that the copyright protection period covering the right to acknowledgment under art. 9, ¶ (2) is subject to no durational limitation. Id. art. 15. Because the general protection period is only guaranteed to be twenty-five years (i.e., the additional extension provided for by the rules is permissive, not mandatory) this provision appears to violate China’s obligations under the Berne Convention. See infra note 62. This defect has, however, likely been cured by regulations governing the PRC’s implementation of copyright treaties to which it is a signatory. See infra notes 59-63 and accompanying text (reporting on this issue).

43. USTR, China IPR Agreement Fact Sheet, Jan. 17, 1992, at 1, available from Department of Commerce, Asia Business Center Flash-Fax System (202) 482-3875. Surprisingly, the implementing rules for software registration, issued three months after the agreement, in April, 1992, make no mention of extending the protection period. See Measures for Computer Software Copyright Registration, supra note 26 (failing to implement changes required pursuant to U.S.—PRC IPR Agreement); but see infra notes 54-63 and accompanying text (discussing implications of international treaty implementation regulations).

44. But see Tan, supra note 29, at 178 (positing that computer programs “will be protected as . . . ‘literary work[s]’ for a term of 50 years without any renewal registration requirements” because of China’s Berne Convention obligations).

45. Computer Software Protection Rules, supra note 26, art. 22.

and developers. Such concerns are entirely valid because this special exception for the government sets a poor example for private individuals and entities, and may actually serve to encourage others to violate both the letter and spirit of the Rules.

Finally, the efficacy of the Computer Software Rules is significantly diminished by the provisions limiting the scope of rights granted to software developers on so-called “national interest” grounds. For example, Article 28 forbids Chinese citizens to license computer software developed in China to foreigners, unless they acquire prior approval from the relevant “software registration control organ.” Moreover, Article 31, one of the most troubling provisions in the Rules, has the potential to render meaningless virtually all of the rights granted under the other sections of the Rules. The text of Article 31 states:

If software is developed which is similar to existing software, this shall not be seen to constitute an infringement of the existing software’s copyright in the following circumstances:

1. when essential for implementing relevant State policies, laws, rules, and regulations;
2. when essential for implementing State technological standards;
3. when the various forms of expression available for selection and use are limited.

By utilizing highly ambiguous terms like “state policies” and “technological standards,” the Rules give the government ample latitude to intentionally infringe upon software developers’ rights, under the guise of protecting a questionable state interest. Moreover, Article 31 and the other Rules completely disregard the rights of software developers affected by the Article 31 exception because they make no provision for the compensation of those adversely impacted by the permissible creation of “similar” programs.

Copyright, Computer Software and the New Protectionism, 28 Jurimetrics J. 33, 94 (1987) (arguing that an “appropriate balance between incentive and efficient diffusion of technology” is necessary to limit the scope of protection of copyrighted software).


48. The government recently recognized this potential problem and attempts have been made to rectify the situation. For example, in the recent US-China intellectual property rights accord, the Chinese agreed to ensure the removal of unauthorized copies of computer software from the computer systems of public entities. USTR, United States and China Reach Accord on Protection of Intellectual Property Rights, Market Access, Press Release 95-12, Feb. 26, 1995, at 5, available from USTR Fax Retrieval System (202) 395-3089.

49. See, e.g., Computer Software Protection Rules, supra note 26, art. 22, 31; Alford, supra note 3, at 81.

50. Computer Software Protection Rules, supra note 26, art. 28.

51. Computer Software Protection Rules, supra note 26, art. 31.

52. See ALFORD, supra note 3, at 81 (suggesting problematic nature of this provision).

53. ALFORD, supra note 3, at 81.
C. THE IMPACT OF CHINA'S INTERNATIONAL OBLIGATIONS ON COMPUTER SOFTWARE PROTECTION

After enacting the Copyright Law in 1990, China bowed to outside pressure, particularly from the U.S., and joined both the Berne Copyright Convention and the Universal Copyright Convention in 1992. By signing these international agreements, China indicated its intention to provide greater protection of copyrighted works. Earlier in 1992, PRC leaders agreed to amend China's laws to make them consistent with the country's international undertakings, further demonstrating resolve to move toward more effective protection of foreign copyrights. In pursuit of this goal, China's State Council issued special regulations to govern the implementation of international copyright treaties on September 25, 1992. These regulations outlined procedures for dealing with works protected under international conventions and bilateral treaties to which China is, or becomes a signatory. Moreover, these agreements established specific rules protecting foreign works of art, computer programs protected as literary works, videos and films.


58. See Yu, supra note 57, at 162 (arguing that China's intellectual property laws now meet international standards); USTR Press Release 92-3, supra note 54, at 2 (noting that 1992 agreement showed China's willingness to bring its trading regime closer to international norms).


60. International Treaty Regulations, supra note 59.

61. Id. art. 6.

62. Id. art. 7. Under this article, foreign programs protected as literary works do not need registration under Chinese domestic law—instead, such programs gain automatic
Notwithstanding these developments, and the signing of a second intellectual property understanding with the U.S., China has made little progress toward fulfilling its bilateral and multilateral treaty commitments. The U.S. and other world trading nations do, however, have leverage because China wants membership in the World Trade Organization ("WTO"). China has tried unsuccessfully to attain contracting party status in the General Agreement on Tariffs and Trade ("GATT")/WTO for nearly a decade, but has consistently fallen short of this goal by failing, inter alia, to meet basic levels of market access and intellec-

copppyright protection for a fifty year period after the year of their initial release. Id. This provision, however, seems to run counter to provisions of the Computer Software Protection Rules, which limit the term of protection for software to a mere twenty-five years, but do allow copyright holders to apply for a twenty-five year extension of the protection period. See Computer Software Protection Rules, supra note 26, art. 15 (stating that "the protection period for software copyright shall be twenty-five years . . . after the software's initial release"). The diminished term of protection accurately reflects the view of the Chinese authorities that software, although granted copyright protection, "is not regarded as a literary work." K.H. Pun, A Critique of Copyright Protection for Computer Software in the People's Republic of China, 6 Eur. Intell. Prop. Rev. 227, 230 (1994).

63. International Treaty Regulations, supra note 59, art. 9.

64. China-United States Agreement Regarding Intellectual Property Rights, Feb. 26, 1995 (copy on file with J. MARSHALL J. COMPUTER & INFO. L.). In an exchange of letters between USTR's Kantor and China's Foreign Trade Minister Wu Yi, the U.S. agreed to help train and educate the Chinese about intellectual property issues and to assist with enforcement of the law at the border. Id. at 4. For their part, the Chinese agreed to: (1) ban the export of infringing products; (2) establish "enforcement task forces" comprised of national, provincial, and municipal agencies and police forces to coordinate enforcement activities; and (3) implement a short-term "special enforcement period" for intensified intellectual property protection. Id. at 2, 4, and Annex I, Action Plan for Effective Protection and Enforcement of Intellectual Property Rights. With specific regard to the protection of computer software, the Chinese agreed to punish factories engaged in infringing activities through:

[S]eizure and forfeiture of infringing product[s] and required to pay compensation adequate to compensate the loss which the infringed party suffered as stipulated in Article 53 of the Copyright Regulations, and will pay serious fines commensurate with the level of infringement. In addition, those factories found to be engaging in serious infringing production shall have their business licenses revoked. All infringing copies and the materials and implements directly and predominantly used to make them shall be seized, forfeited and destroyed.

Id., Annex I, at 8. The Annex further details other measures to be taken with regard to the protection of computer software. Id. at 8-11.


66. Simpson, supra note 46, at 625. China has been trying to "reenter GATT" and the WTO since 1986. Id. Since 1986, however, when China notified the GATT Secretariat of its intention to resume membership in the GATT, China has been an observer nation. Schlesinger, supra note 65, at 136. As such, China was permitted to participate as such in the lengthy Uruguay Round negotiations. Id.
If China hopes to enter the WTO, it must act in compliance with the WTO's "Trade Related Intellectual Property Rights" ("TRIPs") provisions. The norms established under TRIPs are "the standard by which the adequacy of WTO members intellectual property laws will be judged." Because China so desperately seeks WTO membership, WTO members have significant leverage which should be used to exact concessions from China in the area of intellectual property protection. Suggestions to the contrary notwithstanding, it would be a serious mistake to allow China into the WTO without first requiring that it bring its enforcement efforts and legal regime into greater compliance with the TRIPs agreement.

III. RECENT COMPUTER SOFTWARE INFRINGEMENT CASES

Despite recent efforts to develop an effective intellectual property regime, in reality, China's efforts to enforce its computer software protection laws have been largely unsuccessful. The convergence of a number of factors have contributed to and exacerbated the nation's enforcement problems. Consequently, it remains extraordinarily difficult to protect software developers' rights in the PRC. The number of intellectual property rights cases coming into the Chinese courts has grown steadily in the past few years, and a few "ground-breaking" computer

67. See Simpson, supra note 46, at 623-26 (reporting on Chinese efforts to gain entrance to GATT and WTO and detailing shortcomings of Chinese efforts); Memorandum of Understanding Between the Government of the People's Republic of China and the Government of the United States of America Concerning Market Access, Oct. 10, 1992, available from Dep't of Commerce, Asia Business Center Flash-Fax Service (202) 482-3875. Under the Market Access Memorandum, the U.S. agreed to "staunchly support China's achievement of contracting party status to the GATT and [to] work constructively with the Chinese Government and other GATT contracting parties to reach agreement on an acceptable "Protocol" and then China's rapid attainment of contracting party status." Id. at 5.

68. But see Schlesinger, supra note 65, at 95 (arguing that China has substantially complied with requirements of TRIPs). According to Schlesinger, "permitting China to join the WTO would provide the international community with another means of persuading China to bring its intellectual property laws into full compliance with international norms." Id.

69. Id. at 95 n.9.

70. See generally Schlesinger, supra note 65 (advocating admission of China to WTO without further compliance with TRIPS).

71. See Holleyman Testimony, supra note 4, at 2 (giving China's 1995 enforcement efforts "a 'D';" still better than China's 1994 "'F'"; International Intellectual Property Alliance, supra note 7, at 1-3 (alleging that China's commitments under IPR agreement remain largely unfulfilled and detailing shortfalls in Chinese efforts to combat infringing activities); Paul Jaskunas, China Antipiracy Pact Gets a "D+", AMLAW TECH 20 (Spring 1996) (reporting on scant progress under U.S.—China IPR pact, but not several minor achievements).

72. Schlesinger, supra note 65, at 121 n.135.
software rights cases have been heard recently. Following are brief summaries of the major cases in this area.

A. Cases Involving Domestic Parties Only

1. The Beijing Wei Hong Computer Software Case

The first court case in the PRC involving computer software copyright was heard by the Beijing Haidan District People's Court in 1993. The case involved a claim by plaintiff Beijing Wei Hong Computer Software Research Institute ("Beijing Wei Hong") that defendant Beijing Zhong Ke Yun Technological Company ("Beijing Zhong Ke Yun") had infringed its copyright interests by copying and selling software in violation of the Computer Software Protection Rules.

The district court held that plaintiff Beijing Wei Hong had a legal copyright to the software involved in the dispute, and that the defendant had, "without licen[sl]e from the plaintiff, promoted the sale of [illegally copied software, thus] infringing plaintiff's copyright and related interests." This finding is consistent with the Computer Software Protection Rules, which expressly prohibit "copying software without the consent of the software copyright holder or assignee."

The court ordered defendant Beijing Zhong Ke Yun to pay Rmb 46,000 in compensatory damages and a Rmb 10,000 civil fine, desist from further infringement, bear Rmb 7,000 in "auditing and appraisal expenses," and publish a court approved statement of apology in a Chinese computer journal. Court costs in the amount of Rmb 5,231 were assessed to the parties jointly. Notably, the court did not exercise its authority under the Computer Software Protection Rules to "confiscate illegal earnings" from Beijing Zhong Ke Yun.

2. The Golden Dawn Case

In 1994, the newly created Intellectual Property Chamber of the Beijing Intermediate People's Court rendered an important decision in a

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73. Case Digest: Landmark Computer Software Dispute: Court Penalises Infringement, CHINA L. & PRACTICE, June 3, 1993, at 19 [hereinafter Beijing Wei Hong Decision].
74. Id.
75. Id.
76. Computer Software Protection Rules, supra note 26, art 30, ¶(7).
77. Beijing Wei Hong Decision, supra note 73, at 19.
78. Id.
79. Computer Software Protection Rules, supra note 26, art. 30; see Beijing Wei Hong Decision, supra note 73, at 20 (Editor's Notes).
80. Schlesinger, supra note 65, at 120-21 (addressing creation of special intellectual property courts in major Chinese cities).
computer software copyright infringement case\textsuperscript{81} which involved two Chinese companies; plaintiff, Golden Dawn Safety Technology Company and defendant Beijing Shijingshan District Zhiye Electronics.\textsuperscript{82} Sun Mou, an employee of the defendant Zhiye Electronics, was named as a third party defendant.\textsuperscript{83} The Golden Dawn case is significant because, 1) it was the first computer software infringement case heard by the Intellectual Property Court in Beijing,\textsuperscript{84} and 2) it was reported that this was the first instance in which the losing side was ordered to pay investigatory and court costs.\textsuperscript{85}

According to the court record, on July 29, 1993, Golden Dawn received the copyright for computer software which it had developed and had been selling under the name “KILL” since March, 1993.\textsuperscript{86} Earlier in July, Golden Dawn discovered a brochure advertising, among hundreds of other computer applications, a program named “KILL 66.”\textsuperscript{87} On August 10, 1993, Golden Dawn agents approached the Haidan District Office of the Notary Public for assistance, and in the presence of a notarial official, purchased the KILL 66 program and several others from Sun Mou for the sum of Rmb 60.\textsuperscript{88} Sun immediately prepared a receipt for Golden Dawn, issuing it in the name “Zhiye.”\textsuperscript{89}

The court found that Sun, by distributing the brochure and copying the software without authorization from Golden Dawn, had violated the copyright law.\textsuperscript{90} The court ruled that Zhiye Electronics was also liable for the infringing activities on the grounds that Sun was in its employ, and had issued receipts and held accounts in Zhiye’s name.\textsuperscript{91} Based on its findings, the court ordered the immediate cessation of all activities relating to the infringement of Golden Dawn’s KILL copyright by Zhiye

\textsuperscript{81} Under the Computer Software Protection Rules, infringing activities can include both the unauthorized distribution, copying of, and publication of copyrighted software. Computer Software Rules, supra note 26, art. 30, ¶¶ (1), (6), and (7).

\textsuperscript{82} Case Digest: Local Software Developer Wins Rmb 150,000 Award for Infringement, CHINA L. & PRACTICE, April 11, 1994, at 19 [hereinafter Golden Dawn Decision] (originally reported in Chinese in the PRC legal newspaper, FAZHI RIBAO).

\textsuperscript{83} Id.

\textsuperscript{84} Id. (citing FAZHI RIBAO).

\textsuperscript{85} Id. (quoting head of Intellectual Property Court as reported in FAZHI RIBAO).

\textsuperscript{86} Golden Dawn Decision, supra note 82, at 19.

\textsuperscript{87} Id. The court’s decision leaves unclear what similarities, other than the names, existed between the copyrighted version of KILL and the infringing KILL 66 version sold by Sun and Zhiye. See id. at 19 (Editor’s notes).

\textsuperscript{88} Golden Dawn Decision, supra note 82, at 19.

\textsuperscript{89} Id. The reports make no mention of Zhiye Electronics’ defense, and apparently the court determined that Sun’s actions were taken within the scope of his employment, or under color of authority from Zhiye. Id.

\textsuperscript{90} Id.

\textsuperscript{91} Id.
and all third parties, and directed Zhiye Electronics to pay Golden Dawn damages of Rmb 100,000 for "any economic losses and loss of reputation sustained by Golden Dawn, any losses incurred as a result of obtaining an investigation permit and costs arising from the court proceedings." Finally, the court awarded Golden Dawn an additional Rmb 50,000 to cover "costs incurred by it in alleviating the effect brought about by defendants' activities."

3. The Anhui Provincial Television Case

The 1995 ruling of the Intermediate People's Court of Hefei City was the first decision rendered in a computer software infringement case in Anhui Province. The case was brought by the Anhui Provincial Television and Technology Research Institute against several defendant companies and individuals who reportedly reproduced and sold computer systems using computer software designed and copyrighted by the plaintiff. According to the reports, the Research Institute's color-graphic and textual software was in great demand on the domestic Chinese market, and was a strong rival in quality to similar foreign programs. The plaintiff's system won a 1992 provincial science and technology award and plaintiff's copyright in the software was registered with and confirmed by the relevant state ministry in November 1992. Finding that three of the defendants had collectively engaged in the unauthorized reproduction and sale of copyrighted software, the Hefei court ordered defendants Taiyang Company, Hu Xun, and Wang Gang to pay nearly Rmb 320,000 in compensatory damages. As with the Beijing Wei Hong cases, compensatory damages are awarded to cover the costs incurred by the plaintiff in alleviating the effect brought about by the defendants' activities.

92. Article 30 of the Computer Software Regulations allows the imposition of injunctive relief and allows holders of copyright in computer software to seek monetary damages from infringers. Computer Software Protection Rules, supra note 26, art. 30.
93. Golden Dawn Decision, supra note 82, at 19.
94. Id.
96. Id.
97. Id. At an international high-technology exhibition, the Research Institute's computer and its programs "compared favourably" with a comparable Sony Corporation system. Id.
98. Anhui Case, supra note 95, at 3.
99. Id. Taiyang Company and Hu were jointly required to pay Rmb 236,783.06, while Wang was ordered to compensate the plaintiff in the amount of Rmb 81,503. Id. The court found that Wang, an employee of the Research Institute, had sold machines using software reproduced from that used in his employer's products. Id. Plaintiff's claims against Wang's buyer, a provincial training center for Communist Party members, were rejected by the Court. Id. Although the report does not state the reasons for releasing the training center from liability, the Computer Software Protection Rules protect "innocent" holders of pirated software from liability, instead, shifting all liability "to the supplier of the infringing-
case, the three were also directed to halt all infringing activities and publish written apologies in newspapers designated by the court.¹⁰¹

B. THE BEIJING JUREN COMPUTER COMPANY CASE AND BSA INITIATIVES

The first significant court decision involving the infringement of intellectual property rights held by foreign software makers was handed down in October, 1995 by the Intellectual Property Chamber of the Number 1 Beijing Intermediate People's Court.¹⁰² In its landmark ruling, a unanimous court¹⁰³ found computer software distributor Beijing Juren Computer Company guilty of illegally selling software published by several member companies of the Business Software Alliance,¹⁰⁴ including pirated copies of such popular programs as Autocad, Microsoft Word, Word Perfect, and Lotus 1-2-3.¹⁰⁵ The court based its decision in part on evidence seized from Beijing Juren's premises during court-ordered raids conducted in June 1994.¹⁰⁶ In those raids, authorities seized evidence ranging from illegal CD-ROMS and diskettes to financial books and records held by the defendant.¹⁰⁷

The deterrent effect of this decision is not yet apparent, largely because the court only issued its determination on damages in the case on April 16, 1996.¹⁰⁸ BSA representatives, in the months between the court's judgment and its decision on damages, voiced hope that the judging software." Computer Software Protection Rules, supra note 26, art. 32. The Rules, however, require that infringing software be destroyed only if destruction is necessary "to protect the rights and interests of the software copyright holder . . . ." Id. In such a case the innocent purchaser can seek compensation from the infringing seller "for any losses incurred." Id.

¹⁰⁰. See supra notes 73-79 and accompanying text.
¹⁰¹. Anhui Case, supra note 95, at 3.
¹⁰³. Holleyman Testimony, supra note 4, at 6.
¹⁰⁴. Beijing Juren News Release, supra note 102, at 1. The court held that Beijing Juren had sold illegal copies of software published by Autodesk, Microsoft, Novell, and WordPerfect. Id.
¹⁰⁷. Id.
ment "would be a heavy one," and have "demanded damages calculated on the retail price of the software and possible punitive damages" because Juren allegedly continued to pirate foreign-owned software after the complaint was filed.

The court's decision on damages, however, was at best modest. The Rmb 630,000 verdict against Beijing Juren included "damages, court fees and accounting costs of [Rmb] 550,000" to the plaintiffs, and a nominal Rmb 80,000 civil fine. The court also confiscated computers and software seized from Juren during the investigation of its pirating activities, enjoined it from continued piracy of Microsoft, Autodesk, and WordPerfect products, and ordered Juren to make a public apology to the plaintiffs. Although they expressed some disappointment with the damages award, BSA representatives called the Beijing Juren decision a "landmark case" demonstrating a new commitment on the part of China's courts to mete out "more than a slap on the wrist" to software pirates.

The Beijing Juren decision came on the heels of another BSA victory, the settlement of a pending lawsuit against the Beijing-based Gaoli Computer Company in June 1995. Prior to the settlement, BSA had filed a complaint against Gaoli in the same court that reached the guilty verdict against Beijing Juren. While the terms of the Gaoli settlement obligated BSA to withdraw its infringement complaint, Gaoli undertook to pay the plaintiffs $78,276 in court/investigation costs and


109. Beijing Juren News Release, supra note 102, at 1 (quoting BSA Vice-President Stephanie Mitchell). Mitchell stated:

This was one of the most blatant cases of software theft we have uncovered and we hope the judgement for damages will be a heavy one, not only to cover the considerable expense already incurred by BSA, but to send a clear warning to all sellers of stolen software throughout China that software theft will not be tolerated by the authorities or the BSA.

Id.

110. Macartney, supra note 105.

111. See China Piracy Case, supra note 108 (quoting BSA official, "The settlement was a bit less than we hoped for . . . but . . . it was a decision within the realm of reality" for China).

112. Id.


115. See Beijing Juren News Release, supra note 102, at 1 (discussing the terms of the settlement).

compensation,\textsuperscript{117} guaranteed not to infringe BSA members' products in the future, and made a public apology for its actions.\textsuperscript{118} The Gaoli "settlement was thought to be the largest of its kind" in China.\textsuperscript{119} In September 1995, BSA member Novell also arranged a settlement, on similar terms, with Beijing Lianying Computer Corporation,\textsuperscript{120} perhaps signaling that Chinese pirates are unwilling to take their chances in the courts.

Industry officials have expressed optimism that the recent decisions of the Chinese courts will lead to improved enforcement of intellectual property rights for computer software in the PRC.\textsuperscript{121} Still, general sentiments reflect knowledge that software protection in China remains "far from satisfactory" and requires considerable efforts to implement an effective system.\textsuperscript{122}

\textbf{IV. THE MAIN BARRIERS TO EFFECTIVE PROTECTION OF COMPUTER SOFTWARE RIGHTS IN CHINA}

\textbf{A. OVERVIEW}

In the late 1980s and early 1990s, foreign software manufacturers and governments grew increasingly impatient with the slow pace of Chinese efforts to provide protection for computer software.\textsuperscript{123} Through industry organizations, the U.S. government and lobbying groups, software developers began to exert increasing pressure on the PRC to eradicate software pirating operations and enact laws to meaningfully protect their rights.\textsuperscript{124} Although these initiatives have been mildly successful, they cannot stand alone. Institutional problems with the Chinese system have remained a serious problem and have become one of the most troubling aspects of the fight to protect computer software in the PRC. The following section describes the major institutional impedi-

\textsuperscript{117} Id. Of the total settlement amount, $63,500 was in the form of compensatory damages and the remainder was designated for court and ancillary costs. Id.

\textsuperscript{118} Beijing Juren News Release, supra note 102, at 2.

\textsuperscript{119} Riley, \textit{supra} note 116.

\textsuperscript{120} Beijing Juren News Release, supra note 102, at 1; Riley, \textit{supra} note 116.

\textsuperscript{121} See Macartney, \textit{supra} note 105 (quoting Microsoft's vice-president as saying "[w]e are very pleased" with the Juren court's decision); Riley, \textit{supra} note 116 (noting that Gaoli settlement was significant because it "indicated that Chinese authorities were serious about enforcing intellectual property law").

\textsuperscript{122} Riley, \textit{supra} note 116.


\textsuperscript{124} See id. at 869 (noting that the "threat of Special 301 tariffs acted as a catalyst to the lengthy process of drafting legislation," but condemning U.S. threats); Pun, \textit{supra} note 27, at 237 (citing effect of U.S. pressure on PRC's efforts to protect computer software).
ments preventing further progress on the road to protection of intellectual property rights in computer software.

B. INSTITUTIONAL OBSTACLES

1. Non-deterrent Sanctions

The PRC's emerging intellectual property law system was ill-prepared to deal with the sudden emergence of the software piracy phenomenon. Under the original framework, penalties for copyright infringement were negligible. An aggrieved party could hope for little more than a small fine or an injunction against an infringer. Infringers frequently continued illegal pirating operations, even after official sanctions, because they had no fear of criminal penalties.

However, in 1994, the Standing Committee of the National People's Congress adopted the "Resolution on Punishing Crime of Copyright Violations," subjecting those convicted of copyright infringement to criminal penalties.

The threat of criminal penalties will hopefully


126. See Sally Gelston, Executive Briefing, EAST ASIAN EXEC. REPORTS, July 15, 1994, at 4 (noting dissatisfaction of foreign industry groups over fact that copyright violations were only subject to civil penalties); IPR Industry to Offer USTR Mixed Assessment of Chinese Enforcement, supra note 47, at 20 (reporting that some pirate plants, closed in government crackdown, have restarted operations); Yu, supra note 57, at 152 (advocating the implementation of criminal penalties for copyright infringers). Yu argues that:

With respect to copyright protection, the most serious problem is the absence of criminal penalties. It is curious that criminal penalties are provided for under the Patent Law for counterfeiting of patents and under the Trademark Law for counterfeiting of registered trademarks, but none are provided under the Copyright Law. However compelling the legal arguments against including criminal sanctions may have been, practice has shown that the lack of criminal penalties under the Copyright Law has had a disastrous effect on China's efforts to fight against copyright pirates. . . . Clearly the Copyright Law should be amended to provide criminal sanctions to crack down on copyright pirates. Only then will copyright protection be in line with protection of other intellectual property rights . . . all of which have criminal penalties.

Id. at 152-55; see also Joseph T. Simone, Jr., Damming the Counterfeit Tide, CHINA BUS. REV., Nov.-Dec. 1993, at 52, 55 (stating that "the deterrent power of prison greatly exceeds that of administrative fines" and speculating that aggrieved right holders "should find it easier to negotiate settlements with infringers" if infringers have a legitimate fear of criminal prosecution).

127. See Gelston, supra note 126, at 4 (noting the resolution became effective July 5, 1994).

strengthen software protection.\textsuperscript{129}

The penalties for those involved in copyright violations under the Resolution range from zero to seven year prison sentences and criminal fines.\textsuperscript{130} “Those convicted of collecting ‘huge profits’ from duplicating or distributing [copyrighted goods] could be sentenced to up to three years in prison and fined . . . .”\textsuperscript{131} “Those convicted of accumulating ‘extremely huge profits’ from those activities face prison terms of three to seven years and fines.”\textsuperscript{132} Individual retail sellers convicted of selling pirated goods are also subject to criminal penalties with reduced sentences, and the upper-level management of corporate retailers can likewise be charged, fined, and sentenced to jail under the Resolution.\textsuperscript{133}

Although software manufacturers welcomed the implementation of criminal penalties for copyright violations, nearly two years have passed and the Chinese largely have failed to enforce this law.\textsuperscript{134} According to one source, there has only been:

[O]ne successful criminal prosecution for piracy of U.S. copyrighted works that has resulted in a high fine or jail sentence — a reported 9-month jail term in Guangdong Province following a major seizure of CDs from a pirate distributor. This is a dismal record and hardly in compliance with China’s commitment to use its criminal law to deter piracy. The record of administrative enforcement by the National Copyright Administration . . . and by the State Agencies for Industry and Commerce . . . has been improving, but penalties . . . are still woefully low . . . [and neither agency has] referred serious cases for prosecution under the criminal . . . law, as is required by the [U.S.-China IPR] agreement.\textsuperscript{135}

Furthermore, even when presented with evidence of major infringing activities, Chinese prosecutors have reportedly rebuffed software industry referrals of cases for criminal prosecution, claiming that they are not interested in pursuing such leads.\textsuperscript{136} The PRC’s near complete failure to utilize the available criminal sanctions is disheartening because such penalties are a necessary and integral part of any effective enforcement effort.\textsuperscript{137}

\textsuperscript{129} See Gelston, supra note 126, at 4 (noting that “[p]unishable crimes include the duplication, distribution and marketing of . . . computer software . . .”).

\textsuperscript{130} Id. See Gao, supra note 128, at 11.

\textsuperscript{131} Gelston, supra note 126, at 4

\textsuperscript{132} Id.

\textsuperscript{133} Id. See Gao, supra note 128, at 11 (reporting that unauthorized sellers of copyrighted goods can receive two to five year sentences).

\textsuperscript{134} International Intellectual Property Alliance, supra note 7, at 2.

\textsuperscript{135} Id.

\textsuperscript{136} Id. at 10.

\textsuperscript{137} But see Ren Jianxin Interview, supra note 1, at 50 (claiming that “China has a comprehensive criminal penalty and criminal procedure system . . . [and] the courts . . . impose[e] severe punishment on criminal offenses . . . ”).
2. Enforcement: Lagging Well-Behind the Law

The Chinese government has long dragged its feet on enforcing its computer software protection laws and international obligations. However, in the last year, there have been numerous signs that the government is taking enforcement more seriously. Since the signing of the most recent intellectual property agreement with the U.S. in 1995, China has reportedly undertaken efforts to "purge state agencies of illegally copied software," raided numerous illegal pirate CD-ROM plants and retailers, and announced its intention to remain "tough on copyright violators" in 1996. These efforts are encouraging, but must continue. Any lapse in enforcement will allow pirates to resurface and impede the future protection of computer software.

138. See, e.g., Holleyman Testimony, supra note 4, at 3-4 (reporting that Chinese have yet to "dramatically and forcefully shut down ... pirate plants," and claiming no progress "[w]ith respect to government legalization of its software"); International Intellectual Property Alliance, supra note 7, at 2 (noting that one year after signing of 1995 IPR agreement, China has failed to carry out its "principal obligations"); Ambassador Michael Kantor, Text of Speech Delivered to US-China Business Council, Jan. 31, 1996, at 4, available from U.S.T.R. Fax Retrieval System (202) 395-4809 (stating that "China has not taken ... important and critical actions ... to fully enforce" 1995's IPR agreement); United States and China Reach Accord on Protection of Intellectual Property Rights, Market Access, supra note 5, at 5 (noting that China has "not live[d] up to its obligations under the [1992 IPRI Agreement to enforce its laws and regulations" and reporting that as of February 26, 1995, "there have been no criminal convictions for major copyright infringers").

139. See, e.g., Holleyman Testimony, supra note 4, at 2 (testifying that the news from China "is not all bad" and that BSA "ha[s] seen a visible improvement in the level of cooperation [from] Chinese officials . . . since the [1995] Agreement was signed"); International Intellectual Property Alliance, supra note 7, at 1 (submitting that some positive achievements have been made); Ambassador Kantor, supra note 138, at 4 ("China has taken steps to improve IPR protection, and we should recognize those steps").


141. Kantor, supra note 138, at 4. According to U.S.T.R. Kantor, since the spring of 1995, "China has launched more than 3,200 raids . . . confiscated more than two million CD's, hundreds of pirated books, sound recordings, and computer software. Id. See also BSA, Three Arrested in Beijing During Joint BSA/China Raids Against Illegal Software Retailers, Press Release April 28, 1995 (reporting that Chinese officials have cooperated with the BSA in making numerous raids and arrests at business suspected of selling pirated software); BSA and Chinese Officials Conduct Raids Against 47 Illegal Software Retail Outlets in Southern China, Press Release, Feb. 22, 1995; Hundreds of CD-ROMs Seized in First-Ever Raids by BSA in Shanghai Against Illegal Software Retailers, July 4, 1995.

142. Xinhua News Agency., China: Targets Set for Copyright Protection in 1996, FAR EAST, Feb. 5, 1996, 1. The Deputy Director of the State Copyright Administration announced that his organization will "intensify the fight against copyright infringement on high-technological products, including computer software and CD-ROMs . . . and revise [China's] five-year-old Copyright Law." Id.
3. Ineffective Judiciary

For many years, the PRC's court system has been regarded as ineffective.\textsuperscript{143} Although China established special courts in major cities to deal with intellectual property cases in 1993,\textsuperscript{144} these courts are "still relatively inexperienced in the interpretation and implementation of intellectual property related laws."\textsuperscript{145} In addition, Chinese courts are often critically understaffed and lack access to basic resources.\textsuperscript{146} Moreover, many of the judges initially appointed to the special courts have had little experience dealing with intellectual property issues,\textsuperscript{147} while others "lack the necessary background" to try and rule on cases under their jurisdiction.\textsuperscript{148} The creation of special courts to deal with intellectual property cases is a step in the right direction. However, until China's leaders further invigorate and reform the judiciary, and provide

\textsuperscript{143} See Donald C. Clarke, Justice and the Legal System in China, China in the 1990's 91-92 (1995) (discussing limited role played by courts and noting that courts in PRC "are just one bureaucracy among many" and finding that limited competence of courts stems naturally from traditional Chinese views of relationship between government and law).

\textsuperscript{144} There are now intellectual property courts in: Beijing (3), Tianjin, Shanghai (3), Guangdong (5), Fuzhou, Dalian, and Xiamen. See Schlesinger, supra note 65, at 120-21 (discussing creation of intellectual property courts); Xinhua News Agency, Round Up: China Stresses Protection of Intellectual Property Rights, Aug. 23, 1995, available in LEXIS, NEWS Library, CURNWS File (detailing measures taken by government to protect intellectual property rights). The creation of special courts began in Beijing, where intellectual property divisions were created in the Municipal High People's Court and the Municipal Intermediate People's Court. Schlesinger, supra note 65, at 120; Yu, supra note 57, at 147-48.

\textsuperscript{145} Tan, supra note 121, at 12. However, it can be expected that these courts will gain significant experience in the handling of intellectual property matters because these courts deal only with cases involving such matters. Schlesinger, supra note 65, at 121. In 1994 alone, 266 intellectual property cases were filed in the Beijing Intellectual property courts alone, a 17.7% increase over 1993. Id. at 121, n.135.

\textsuperscript{146} But see id. at 121 (noting that special intellectual property courts are permanently staffed by judges and law clerks). As a general observation, the PRC suffers from a serious shortage of lawyers, and there is a particular need to train new lawyers in intellectual property law matters because even those qualified to handle intellectual property cases need to improve their services and raise their levels of competency. Yu, supra note 57, at 161. The president of China's highest court states that China's "courts have a heavy caseload. They have in recent years handled close to four million cases every year." See generally Ren Jianxin Interview, supra note 1, at 49 (stating that the Chinese "courts have a heavy case load").

\textsuperscript{147} Cf. Yu, supra note 57, at 161 (advocating system of regular programs and seminars to help educate judges dealing with intellectual property disputes and keep them abreast of changes in field).

\textsuperscript{148} Tan, supra note 125. One Chinese judicial officer, however, points to China's training of "an army of specialist judges" as representative of China's progress in implementing the intellectual property regime. Id.
it with the much needed resources, training and manpower, intellectual property cases will continue to face serious difficulties in the mainland's courts.

V. CONCLUSION

The landscape of computer software protection in the PRC remains bleak despite signs of progress in recent years. While China's leaders have made significant commitments to reform on paper, their enforcement efforts remain inadequate. In order to create a truly viable and effective regime for the protection of rights in computer software, it is imperative that the Chinese commit to, and follow through with, additional reforms. The prospect of greatly improved protection is within sight, but China's tortoise-like pace on the road to efficacious protection of computer software suggests that for the time being, the PRC will remain a "one-copy" country.

149. Chen Yongshun, Judicial Protection of Intellectual Property Rights in China, 1 CHINA LAW 69 (1995). In recent years, "legal education on intellectual property in universities has improved" with some schools even offering second degrees in intellectual property law. Yu, supra note 57, at 149-50. As educational and training opportunities for attorneys and jurists in the PRC expand, there is a hope that intellectual property will be better protected. Id.

150. Cf. Riley, supra note 112 (reporting on high cost of filing private lawsuits against alleged pirates in China and noting that China's bond posting requirement substantially discourages potential plaintiffs).

151. See supra notes 102-122 (discussing recent BSA successes).