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SOFTWARE TYING ARRANGEMENTS UNDER THE ANTITRUST LAWS: A MORE FLEXIBLE APPROACH

MELISSA HAMILTON*

INTRODUCTION

The computer software industry is plagued by the apparent conflict between two major public policy issues: antitrust law and intellectual property protection.1 The courts, as well as some commentators, view antitrust and intellectual property law as inherently adverse to each other.2 This view, based on the assumption that antitrust laws are intended to promote vigorous competition while intellectual property laws provide anticompetitive benefits to creators, incorrectly implies that intellectual property protection inhibits the goals of the antitrust laws. As a consequence, courts have developed rules in which certain conduct involving intellectual property licensing is considered per se illegal under the antitrust laws.3

The belief that antitrust and intellectual property laws are naturally adverse is erroneous because it fails to take adequately into consideration the procompetitive impact of intellectual property laws. By allowing creators to benefit from their inventions, intellectual property laws encourage the development of new technologies. Competition, and thereby consumer interest, are advanced as a result of the availability of more choices, new and better products and services, and lower prices.4

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1. "Intellectual property" is a term referring generally to patents, copyrights, trade secrets and trademarks.

2. See Lasercomb Am., Inc. v. Reynolds, 911 F.2d 970, 977-79 (4th Cir. 1990) (holding that the anticompetitive language contained in a software license, which restricted the licensee from developing competing products, was in flagrant disregard of the public policy embedded in copyright law); CVD, Inc. v. Raytheon Co., 769 F.2d 842, 850 (1st Cir. 1985) (noting "tension between the antitrust laws and the public interest in the licensing of trade secrets"), cert. denied, 475 U.S. 1016 (1986); SCM Corp. v. Xerox Corp., 645 F.2d 1195, 1203 (2d Cir. 1981) (stating that "patent and antitrust laws necessarily clash" when a patented product is so successful that it evolves into its own economic market or engulfs a large share of the preexisting product market), cert. denied, 455 U.S. 1016 (1982); cf. United States v. Loew's, Inc. 371 U.S. 38, 45 n.4 (1962) (affirming the rigorous antitrust rule that when a tying product is patented or copyrighted, a presumption of sufficiency of economic power exists); see also 1 ROGER M. MILGRIM, MILGRIM ON TRADE SECRETS §§ 6.05, 6.05[4] (1993) (noting the "seeming dichotomy between trade secret and antitrust philosophy," and the "seeming antinomy between the dictates of free competition encouraged by the antitrust laws and the monopolistic privileges granted under the patent laws"); Daniel K. Dik, Note, Copyrighted Software and Tying Arrangements: A Fresh Appreciation for Per Se Illegality, 10 COMPUTER/L.J. 413, at 413 (1990) (stating that copyright and antitrust laws conflict when the "advantages and tools appropriate to one sphere of activity are used to upset the workings of another sphere of activity").

3. See infra notes 60-66 and accompanying text.

The general rule that the law tends to lag significantly behind technological advances finds no exception in the case of software. The primary reason is that traditional legal concepts do not always operate well with complex and innovative technologies, such as computer software. The effect of the law's failure to keep pace with the software industry is exemplified by the obstacles encountered in gaining legal protection for software using traditional laws. While advances have been made to the extent that patent, copyright, and state trade secret laws, or a combination thereof,\(^5\) are now available as a general matter to software developers, there is still much confusion concerning which features of a software product are protected under which law.\(^6\) One of the lessons learned in the struggle to obtain intellectual property law protection is that the complex character of software technology often demands special treatment in affected areas of law.

Just as traditional intellectual property laws have required new interpretations or formal amendments to include the protection of software, the formalistic approach of the antitrust laws requires modification. Technological innovation is the key to competition in the software market. In order to succeed in the marketplace, software developers must create more functional and efficient programs.\(^7\) Intellectual property laws encourage innovation, which should not be abrogated by antitrust laws.

Perhaps the most prominent issue affecting the software industry in terms of the interrelationship between antitrust and intellectual property law occurs in tying cases. In a tying arrangement, the seller agrees to sell one product, referred to as the tying product, on the condition that the purchaser also buy from the seller a different product, referred to as the tied product.\(^8\) Generally, a tying agreement is considered a per se violation of Section 1 of the Sherman Act.\(^9\)

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5. See infra notes 57-59 and accompanying text.
6. See infra notes 37-39 and accompanying text.
7. The functionality of software generally means the tasks or jobs that a software program is able to perform. The ability to perform a certain mathematical calculation or provide a layout for a spreadsheet are examples of software functionality. The efficiency of software may be improved by enhancing the speed or accuracy of the program itself or altering the program so that it uses less computer central processing unit resources.
8. Northern Pac. Ry. v. United States, 356 U.S. 1, 5-6 (1958). Tying arrangements in which the tying product is conditioned upon the purchase of the tied item are generally known as "tie-ins." Another form of tying arrangement exists when the seller conditions the sale of the tying product upon the purchaser's agreement not to deal with the seller's competitors in the tied product. The latter form of tying is generally known as "tie-outs." Tying arrangements apply both to the traditional sale of goods and services, as well as to licenses of intellectual property. See discussion infra part IV.

Software vendors commonly bundle maintenance services with the licensing of their software products. While there may be many reasons for such bundling, some of the major motivations include discouraging reverse engineering and intellectual property infringement, enhancing product efficiency and quality, and promoting consumer acceptance of the tying product. By marketing the software license in conjunction with maintenance services, the software licensor may, however, be exposing itself to antitrust liability for illegal tying. The software license could be construed as a tying product and the maintenance services as the tied product. Most tying arrangements are condemned as being per se anticompetitive in nature. Courts may inadvisably use the same rigid principles developed in other cases to condemn bundling of software and

10. See generally, John C. Yates & Anthony E. DiResta, Software Support and Hardware Maintenance Practices: Tying Considerations, 8 COMPUTER LAW. 17, 18-19 (1991) (software maintenance services may include a variety of services, such as fixing errors, enhancing the functionality or efficiency of the product, providing telephone support, education and training, software installation, and general consulting services).

The bundled maintenance services may be in the form of a warranty or an actual service agreement. For example, a software license may contain an extended warranty period during which the licensor may fix software defects and provide software upgrades. Alternatively, the licensee may obtain a license contract, as well as a services agreement, requiring the licensor to provide similar support. Whether by warranty or service contract, however, the vendor is, in effect, providing maintenance services in addition to granting the software license.

11. Reverse engineering is the act of "starting with the known product and working backward to divine the process which aided in its development or manufacture." Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 476 (1974). Computer software is generally written in source code, understandable by a skilled computer programmer, but not by a computer. To be processed by a computer, the source code is translated into machine readable language, known as object code, consisting of a series of 0's and 1's. Object code is generally indecipherable by humans. Because many software developers regard their source code as trade secrets, they typically will allow their licensees access to object code only. To reverse engineer, a licensee would have to work backward from the object code to reveal the structure and organization of the program.

12. Producing a quality end product is another important goal in achieving market acceptance. See generally Eugene M. Singer, ANTITRUST ECONOMICS AND LEGAL ANALYSIS 105 (1981) (stressing, from an economic viewpoint, that tying arrangements are both elementary and commonplace market practices for goods).

13. As software invariably contains defects, or "bugs," developers desire a relationship whereby the user is motivated to report errors and the developer has the opportunity to correct them. This leads to establishing goodwill with current and future customers and to improving product performance. There are many other reasons vendors bundle software and maintenance. By gaining services revenues, the vendor assures itself an income stream, as well as guaranteed funding for future research and development. A less laudable motive is a desire to exclude competition in the service market. For a discussion of the benefits in combining software with maintenance services, see Yates & DiResta, supra note 10, at 17-18.

Licensees also benefit from the purchase of software and maintenance services together. This package allows the licensee to use the functionality currently in the software, and simultaneously obtain the rights to enhancements developed later. Also, the purchase fee for a software and maintenance services package when the software is substantially incomplete may be materially lower than the license fee would be when the development of the software has significantly progressed.

14. A private party plaintiff may sue under the Clayton Act, 15 U.S.C. § 15(a) (1988 & Supp. IV 1992), and if successful, recover treble damages, costs, attorney's fees, and interest from the date the suit was filed. Id.

maintenance without considering the underlying procompetitive aspects. In general, this Article argues that the application of antitrust principles to software licensing arrangements requires special consideration. Special treatment is particularly warranted because, unlike the traditional sale of goods, the proper antitrust analysis for software technology often involves the principles of both copyright and trade secrets. Moreover, the inflexible application of the rigid tying rules would curtail the fundamental economic and functional benefits a software developer may achieve by packaging software licenses with maintenance services, but would not provide any tangible benefit to consumers. The procompetitive effects of software innovation should be recognized and a more flexible antitrust approach for software taken. Consideration of the impact on competitive conditions, rather than the application of the per se analysis to software tying packages, would preserve the benefits of software innovation yet provide competitors some protection against blatant anticompetitive conduct.

Part I of this Article offers a brief review of intellectual property rights and software technology. Part II provides a general overview of judicially established antitrust tying rules. In Parts III and IV, certain elements of per se tying cases are analyzed in the context of software/maintenance packages. Part III focuses on the tying requirement that there be separate products, and concludes that software and maintenance should be considered a single product. Part IV analyzes the judicial presumption that a copyrighted software product creates unlawful market power. This section concludes that this presumption is unsupported by economic reality, is falsely based on an analogy to patent law, and is inappropriate for software products, because the real value of software tends to be its underlying uncopyrightable functionality and not any market power gained solely from the copyright laws. Finally, Part V acknowledges that courts have been willing to recognize exceptions to the per se rules when the challenged activity is not likely to unreasonably restrict competitive conditions.

I. SUMMARY OF INTELLECTUAL PROPERTY RIGHTS IN SOFTWARE

Legal protection for intellectual property is designed to balance the policy of promoting intellectual creativity with the public interest in gaining access to the creations. Innovators are motivated to release their inventions to the public in return for certain exclusive rights which serve to protect their investment. The public benefits from access to creative

16. See Virtual Maintenance, Inc. v. Prime Computer, Inc., 957 F.2d 1318, 1323 (6th Cir. 1992) (ruling that software support was itself a separate market from hardware maintenance), vacated and remanded, 113 S. Ct. 315 (1992); Roger M. Milgram, Milgrim on Licensing § 8:23, at 8-81 (1992) (stating that a software licensee might "forcefully assert that the requirement that it procure maintenance services from the licensor of the copyrighted software programs is improper").

17. The Constitution empowers Congress to "promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." U.S. CONST. art. I, § 8, cl. 8.

genius and possession of the creative results upon expiration of the creator's statutory control.\textsuperscript{19}

The unique nature of software technology has tested the limits of intellectual property law. Attempts to apply traditional intellectual property rules to software have been frustrated, due mainly to the limitations in the statutory language and strict application of traditional laws.\textsuperscript{20} As a result of such obstacles, and in recognition of the increasing importance of the software industry in the economy today, the law is rapidly changing to meet the needs of software developers in protecting the value and integrity of their work. A variety of intellectual property laws now encompasses software technology.

Copyright protection is one of the primary means of legal protection for computer programs. In general, copyright law protects original works of authorship fixed in any tangible medium of expression.\textsuperscript{21} The scope of the protection extends to the expression of an idea, rather than to the idea itself.\textsuperscript{22} Thus, ideas are not in and of themselves copyrightable.\textsuperscript{23} Moreover, when the idea and the expression are indistinguishable, the expression is not protected under copyright law.\textsuperscript{24} In the context of software, this means that copyright law will not protect a program if there is only one essential means of accomplishing a certain task.\textsuperscript{25}

A copyright owner has the exclusive right to reproduce the work, adapt or make derivative works, publicly distribute copies, publicly perform the work, and display the work.\textsuperscript{26} The exclusive rights last for the life of the author plus fifty years in the case of a real person.\textsuperscript{27} If the author is an entity or is anonymous, or if it is a work made for hire,\textsuperscript{28} the rights last for seventy-five years from publication or one hundred years from creation, whichever occurs first.\textsuperscript{29} Once registered with the Copyright Office, a copyright holder may bring suit to recover damages and to obtain injunctive relief for infringement of the copyright.\textsuperscript{30}

\begin{itemize}
\item[20.] See Gates Rubber Co. v. Bando Am., Inc., 798 F. Supp. 1499, 1502 (D. Colo. 1992) (recognizing that "copyright law was not designed to accommodate computer software protection"), aff'd in part, vacated in part, 9 F.3d 823 (10th Cir. 1993).
\item[23.] 17 U.S.C. § 102(b) (1988).
\item[25.] See Apple Computer, Inc. v. Formula Int'l, Inc., 725 F.2d 521, 525 (9th Cir. 1984).
\item[27.] Id. § 302(a).
\item[28.] A work made for hire is typically created by an employee at the direction of his or her employer. The ownership of a work for hire resides with the employer. 17 U.S.C. § 201(b) (1988). The Supreme Court delineated thirteen factors to guide courts in determining whether the work was performed as an employee or by an independent contractor. See Community for Creative Non-Violence v. Reid, 490 U.S. 730, 751-52 (1989) (enumerating relevant factors in determining whether a hired party is an employee under the general common law of agency).
\item[29.] 17 U.S.C. § 302(c) (1988).
\item[30.] Id. §§ 501-02, 504-05. The prevailing copyright holder may be awarded actual damages and profits or statutory damages in certain circumstances. Id. § 504. In addition, costs and attorneys' fees may be awarded. Id. § 505.
\end{itemize}
Copyright protection has its limitations. Copyright law does not prohibit others from borrowing the idea underlying a copyrighted product and creating their own original expression.\(^{31}\) Likewise, others are free to develop independently their own material.\(^{32}\) Provided that unlawful copying has not occurred, an independently developed product will not be an infringement even if it is substantially similar to a prior copyrighted product.\(^{33}\)

Some of the uncertainty about the scope of the applicability of copyright law to software technology has been resolved. The Copyright Act of 1976 eliminated concern that computer programs were not fixed in a tangible medium of expression (as required for copyright protection) by clarifying that a work could be fixed even if it is readable only by a machine.\(^{34}\) Further, Congress amended the Copyright Act in 1980 to include expressly computer programs as a literary work within the definition of works of authorship.\(^{35}\) Copyright protection has been applied to the literal elements of a program, which include the source and object codes.\(^{36}\) The real difficulty in determining whether copyright protection applies to nonliteral aspects of a computer program lies in differentiating the idea from the expression.

In a controversial decision, Whelan Associates, Inc. v. Jaslow Dental Laboratory, Inc., the Third Circuit ruled that the structure, sequence, and organization of a program were protected by copyright.\(^{37}\) Whether Whelan is correct and whether copyright protection exists for other aspects of software than the source and object codes remain open issues.\(^{38}\) For instance, copyright protection may not extend to data formats, program structure, the "look and feel," data bases, or user interfaces.\(^{39}\) Thus, while most software developers use the copyright law to protect their software, the extent of such protection is still open for interpretation.

\(^{31}\) *Id* § 102(b).

\(^{32}\) *See* Ferguson v. National Broadcasting Co., 584 F.2d 111, 113-14 (5th Cir. 1978).


\(^{37}\) 797 F.2d 1222, 1236 (3d Cir. 1986) (the test for differentiating between idea and expression focuses upon the end sought to be achieved by the work in question), *cert. denied*, 479 U.S. 1031 (1987). Thus, the purpose or function of a program would be the work's idea, and everything not necessary for such purpose or function would be part of the expression. *Id.* at 1236.

\(^{38}\) *See* Computer Assocs. Int'l, Inc. v. Altai, Inc., 982 F.2d 693, 706-11 (2d Cir. 1992) (rejecting Whelan in favor of a three part "successive filtration" test for determining if the offending software is substantially similar to the copyrighted software).

Software developers also commonly seek the protection of trade secret laws. A trade secret can be generally described as any formula, process, pattern, or compilation of confidential information that gives one a business advantage over competitors who do not know it.\(^4\) State law, rather than federal statute, generally governs trade secret protection. In contrast to both the copyright and patent laws, there has been little doubt that computer software may be a trade secret.\(^4\) It is also commonly accepted that copyright law does not preempt trade secret rights.\(^4\)

A trade secret owner obtains certain rights to prohibit unauthorized use or disclosure by those to whom the secret is confidentially revealed.\(^4\) Trade secret law also provides a remedy against those who have obtained the secret through improper means, such as by theft or deception.\(^4\)

To obtain protection, the owner of a trade secret must take reasonable steps to maintain its secrecy.\(^4\) Trade secrecy protection lasts only as long as secrecy is maintained.\(^4\) Legal protection may therefore be lost even if the secret is inadvertently disclosed. Consequently, software license agreements generally require the licensee to keep confidential the software product licensed.

To a limited degree, patents may protect qualifying aspects of a computer program.\(^4\) To be patentable, an invention must be new, useful, and nonobvious to one skilled in the particular subject matter.\(^4\) Though ideas are excluded from copyright protection, the concrete embodiments of ideas or principles are patentable if they meet the requirements for patentability. This means that ideas reduced to practices, methods, or formulas are patentable.\(^4\)

Patent law provides greater rights than either copyright or trade secrets. By obtaining a patent, the holder may preclude independent cre-
ation of the work even where no copying has occurred. Patents provide exclusive rights to manufacture, use, and sell the product or process. These exclusive rights last for a period of 17 years. In return for receiving these exclusive rights, the patent applicant must publicly disclose the invention.

Despite the broader exclusive rights provided by a patent, software developers rarely seek patent protection. The patent application process is complicated, time-consuming, and expensive. Given the limited instances in which software is patentable, the failure to patent software is understandable. Also, to the extent a software developer discloses the invention, any trade secret protection thereof may be lost. In such circumstances, protecting software under either copyright or trade secret laws may be preferable.

Thus, copyright, trade secrets, and to a limited degree, patents, are each available to protect computer software. Software developers commonly use a combination of the three. The extent to which each is used depends upon the characteristics of the particular program, as well as individual needs.

II. ANTITRUST TYING RULES

Tying arrangements are generally challenged under Section 1 of the Sherman Act. Section 1 prohibits every contract, combination, or conspiracy in restraint of trade. Taken literally, the broad language of the statute could be construed to prohibit virtually any joint activity that affects trade, whether competitively desirable or not. Recognizing this conundrum, the Supreme Court limited the scope of the statute to prohibit only concerted restraints that unreasonably restrict competitive conditions. Two general lines of analysis have been created regarding the proof of an unreasonable restraint: per se analysis and the rule of reason.

51. Id.
52. Id. § 154.
53. Id. § 112.
55. See 1 GUIDE TO COMPUTER LAW (CCH) ¶ 5,000, at 5005 (1989).
58. See United States v. Topco Assocs., Inc., 405 U.S. 596, 606 (1972) ("Were § 1 to be read in the narrowest possible way, any commercial contract could be deemed to violate it.").
59. Cf. Broadcast Music, Inc. v. Columbia Broadcasting Sys., Inc., 441 U.S. 1, 19-20 (1979). In acknowledging that Congress did not intend to proscribe in the Sherman Act all the types of conduct that may be anticompetitive, the Court drew upon the legislative history which indicated that Congress expected the courts to give shape to the statute's broad language. National Soc’y of Professional Eng’rs v. United States, 435 U.S. 679, 688 (1978).
The standard per se analysis holds that certain practices are so plainly anticompetitive and without redeeming value that they are per se, or presumptively, unreasonable. The Supreme Court explained that use of the per se analysis helps to "avoid a burdensome inquiry into actual market conditions in situations where the likelihood of anticompetitive conduct is so great as to render unjustified the costs of determining whether the particular case at bar involves anticompetitive conduct." The consequences of applying per se analysis are severe. Once a plaintiff establishes that the practice occurred, the plaintiff need not affirmatively prove the practice was competitively unreasonable. The per se rule assumes the negative impact on the industry, and the defendant does not have the opportunity to justify the action as being reasonable. Because of the extreme handicap it places on a defendant, courts generally apply the per se analysis only to certain types of trade practices that, from long experience, "always or almost always tend to restrict competition.

While it has been generally stated that a tying arrangement is presumptively illegal under the per se rule, in reality a quasi per se analysis is used: after a plaintiff proves that a tying occurred, the defendant still has the opportunity to vindicate its actions as being competitively reasonable. The ability of the defendant to offer a business justification to de-

62. R.C. Dick Geothermal Corp. v. Thermogenics, Inc., 1987-1 Trade Cas. (CCH) ¶ 67,483, at 60,031 (9th Cir. 1987).
fend itself against a per se tying claim is, therefore, a variation of the strict per se rule applied to other types of conduct.

The antitrust concern with tying arrangements is that they may foreclose competition in the market for the tied product. When buyers are forced to purchase a particular product, competition in the relevant market is lessened. The Supreme Court has expressed its strong bias against tying: "[t]ying agreements serve hardly any purpose beyond the suppression of competition." Public policy disfavors the possibility that potentially substandard products are insulated from competitive forces.

Like all other Section 1 claims, the plaintiff asserting an unlawful tying violation must prove an agreement or conspiracy by two or more persons. For a software license/maintenance service package, concerted action can be shown by direct or circumstantial evidence that the tying party sold the software license to its customers on the condition that they also purchase the maintenance services. For instance, a conspiracy can show that the alleged tie of software and hardware was unreasonable. But see United States v. Loew's, Inc., 371 U.S. 38, 51-52 (1962) (after a tying arrangement is proven, courts need not make any "elaborate inquiry" into the business reasons for its use) (citing Northern Pac. Ry. v. United States, 356 U.S. 1, 5 (1958)).

If, however, the plaintiff does not demonstrate a Section 1 per se tying arrangement, then the defendant's conduct is examined under the "rule of reason" test to determine if it unreasonably restrained competition. Jefferson Parish, 466 U.S. at 17-18, 29; Foremost Pro Color, Inc. v. Eastman Kodak Co., 703 F.2d 534, 541 (9th Cir. 1983), cert. denied, 465 U.S. 1038 (1984). Unlike the limited analysis dictated by the per se doctrine, the rule of reason test requires a court to examine the various market factors that bear upon whether a particular practice is unreasonably restrictive of competitive conditions. Jefferson Parish, 466 U.S. at 29.

The purpose of the analysis is to form a judgment about the competitive significance of the restraint; it is not to decide whether a policy favoring competition is in the public interest, or in the interest of the members of an industry. That policy decision has been made by the Congress. National Soc'y of Professional Eng'rs v. United States, 435 U.S. 679, 692 (1978). A court will consider the adverse impact of the alleged illegal practice on competitive conditions in the relevant industry. Id. at 688. A plaintiff's mere assertion that the defendant's action adversely affected the plaintiff will not support an antitrust claim without proof of generalized injury to the market. In addition to showing general market impact, the rule of reason requires consideration of whether the restraint had a substantially adverse effect on competition which outweighs any positive competitive aspects of the restraint. R.C. Dick Geothermal Corp. v. Thermogenics, Inc., 1987-1 Trade Cas. ¶ 67,483, at 60,033 (9th Cir. 1987); Cowley v. Braden Indus., Inc., 613 F.2d 751, 755 (9th Cir.), cert. denied, 446 U.S. 965 (1980).

67. Northern Pac. Ry., 356 U.S. at 6. Tying arrangements "deny competitors free access to the market for the tied product, not because the party imposing the tying requirements has a better product or a lower price but because of his power or leverage in another market." Id.


69. Loew's, 371 U.S. at 44 (quoting Standard Oil Co. v. United States, 337 U.S. 293, 305-06 (1949)).

70. Jefferson Parish, 466 U.S. at 14-15 (citing, inter alia, Fortner I, 394 U.S. at 509); see also Innovation Data Processing, 585 F. Supp. at 1475.

71. See Eastman Kodak Co. v. Image Technical Servs., Inc., 112 S. Ct. 2072, 2080 (1992) (rejecting the argument of a "unified market" because some consumers would purchase either service or parts alone). But see McKenzie v. Mercy Hosp., 854 F.2d 365, 368 (10th Cir.}
be shown by an express refusal to license the software without the purchase of the maintenance services or by other evidence that the licensor would cancel the license if the customer refused to purchase maintenance services.\textsuperscript{72}

In addition to proving concerted action, the plaintiff alleging a tying violation must prove four elements. First, the plaintiff must show the arrangement involves two distinct products or services.\textsuperscript{73} The plaintiff must then show an actual tie exists.\textsuperscript{74} Third, proof is required that the defendant has appreciable economic power in the tying market.\textsuperscript{75} Finally, the arrangement must affect a substantial volume of interstate commerce.\textsuperscript{76} As relatively small sums are deemed to implicate a substantial volume of commerce, this final element deserves scant review.\textsuperscript{77} The remaining elements, however, will be discussed in more detail.

The rule that the tying product and the tied product must be separate items implies separate customer demand for each product so that it is effi-
cient for a firm to offer the products separately. Relevant factors in determining distinctness include whether the tying party or its competitors offer the products separately or only as a single package, whether the prices for the products are set individually or only as a lump sum, and whether purchasers perceive the items as separate or as a single, combined package. It may be evident in many cases that products are indeed separate. Salt machines and salt are distinct products, as are film projectors and film. In close cases, nonetheless, the standards for determining whether two distinct products exist are less clear. Products may still be considered distinct although they are functionally co-dependent in the sense that one is worthless without the other. Thus, tabulators and punch cards are distinct items despite the uselessness of the tabulator without the cards.

The second element of a tying claim requires a showing that the acquisition of the tying product was conditioned upon the purchaser also buying the tied product. A tie occurs when the buyer is coerced or forced into taking the tied item as a condition of acquiring the tying product. The condition may be clearly set forth in an explicit agreement, or it may be shown by the tying party's policy, which results in the purchase of the tying and tied products together, as being "the only viable economic option." However, no illegal tie exists when the purchaser desires to buy the tied item from the same seller or if the purchaser can buy the tying product elsewhere; in either case, the purchaser's freedom to buy the tying and tied items separately is not restrained. Likewise, antitrust liability will not arise in situations where the seller offers the tying product separately from the tied product at a reasonable price.

78. See Jefferson Parish, 466 U.S. at 21-22.
79. Eastman Kodak v. Image Technical Servs., 112 S. Ct. at 2080 (evidence that service and parts had been sold separately in the past deemed relevant).
80. ILC Peripherals Leasing Corp. v. IBM, 448 F. Supp. 228, 233 (N.D. Cal. 1978) (determining that disk drive unit and head/disk assembly were a single product, because of an industry practice to sell the combined unit for a single price).
83. Compare Principe v. McDonald's Corp., 631 F.2d 303, 308 (4th Cir. 1980) (finding no tie existed where a license to use the franchisor's trade name, lease of the restaurant property, and note were part of a single franchise package), cert. denied, 451 U.S. 970 (1981) with Photovest Corp. v. Fotomat Corp., 606 F.2d 704 (7th Cir. 1979) (finding a tie could exist between a trademark license and a lease of the locational property used by the franchisee), cert. denied, 445 U.S. 917 (1980).
85. IBM v. United States, 298 U.S. 131, 135 (1936).
88. See, e.g., Stephen Jay Photography, Ltd. v. Olan Mills, Inc., 903 F.2d 988, 991 (4th Cir. 1990) (no tying of school class photos to individual portraits where students could purchase their portraits elsewhere).
89. Northern Pac. Ry., 356 U.S. at 5-6 n.4 (noting no tying arrangement where the buyer may buy either product by itself, even though the seller also offers the two products together at a single price); Lasercomb Am., Inc. v. Reynolds, 911 F.2d 970, 972-74 & n.6 (4th Cir 1990)
This concept of forcing is not difficult to prove in the case of a software and maintenance service package when the vendor refuses to license the software separately. Obviously, there is no tying violation if the vendor offers the software license alone. But if development of the software is substantially incomplete, then a license of such undeveloped software may not be practical and the licensor would lose funding for further development. Yet the vendor with a viable software product may still find marketing a license without maintenance an unacceptable alternative, considering that the licensor would lose the economic and functional advantages derived from the bundling. Accordingly, the software vendor who markets the software/maintenance package must rely upon the absence of the first element of a tying claim, separate products, or the third element, appreciable economic power.

The third element in proving a tying claim requires that the defendant have appreciable economic power in the tying product that gives the defendant a significant advantage over competitors and thus enables the defendant to condition effectively the availability of the tying item on acceptance of the tied item. In tying cases, courts have made it clear that in some circumstances only a modest degree of market power is needed to show appreciable economic power. Neither monopoly power nor a significant market share is always required. Economic power in the tying market, therefore, need not be absolute so long as the power exists as to some buyers in the market.

Appreciable economic power can be shown in one of three ways. First, economic power arises when the defendant has a dominant position in the tying market. While monopoly power is not required, a tying party with a significant market share is likely to hold a dominant position in the tying market. Second, even without a significant market share, economic power can be shown when a substantial number of individuals acquiesce to the tie and there is no rational reason for that acquiescence other than the tying arrangement itself. The third method of proving

\[\text{computer hardware and software were held not tied when the software could be licensed separately at a reasonable price).\]

91. Eastman Kodak Co. v. Image Technical Servs., Inc., 112 S. Ct. 2072, 2080 (1992); see Fortner I, 394 U.S. at 503. Some economists, though, believe that ties effectively reduce competition, regardless of the presence of market power. See Shaw, supra note 68, at 270-72.
96. See IBM v. United States, 298 U.S. 131 (1936) (control of over 80% of the tying market represented a dominant position in that market). But see Jefferson Parish, 466 U.S. at 26 (50% of market share was insufficient to establish market power).
appreciable economic power arises in the case of tying products that are somehow unique. A presumption of economic power is created when the tying product is substantially cheaper than competing products or the product has no substitutes. The presumption also has been applied when the uniqueness of the product results from legal advantages obtained from patent laws.

If the proof is sufficient to establish a tying arrangement, the defendant may offer evidence of business justifications for the tie. In *Eastman Kodak Co. v. Image Technical Services, Inc.*, Kodak offered three business justifications for its tying of parts and services: maintaining high quality service, reducing inventory costs, and preventing third party service providers from free-riding on Kodak’s investment in equipment, parts, and service. The Court, however, rejected each justification, concluding that the first was pretextual, the second was contrary to the evidence, and the third had “no support in our caselaw.” Thus, if the *Kodak* decision is any indication, the modern view appears to be that a business justification will undergo tough scrutiny by the courts. It is unclear what type of justification a court would likely accept. Accordingly, in examining the antitrust implications of a software/maintenance package, it is necessary to focus on the two weakest elements of a software tying case: separate products and market power.

### III. Single Product Issue

An illegal tying arrangement requires the existence of two distinct products. Courts have addressed this issue in several cases involving computer hardware and software industries. Both *Virtual Maintenance, Inc. v. Prime Computer, Inc.*, and *Datagate, Inc. v. Hewlett-Packard Co.*, involved purported ties between software maintenance services and hardware maintenance. In *Virtual Maintenance*, the defendant sold software support services separately at a large premium above the price it charged for software support and hardware maintenance together.
The defendant in *Datagate* was accused of threatening to withhold software maintenance unless customers also purchased hardware maintenance services. In both cases, the courts found software maintenance and hardware maintenance to be distinct products because of separate consumer demand for each product. Although neither court directly addressed the distinctions between software maintenance and the underlying software, both recognized that software maintenance services, at least in some circumstances, will be considered separate products.

In *Data General Corp. v. Grumman Systems Support Corp.*, the district court ruled that a manufacturer's diagnostic software and its computer equipment repair services were separate products, despite evidence that the diagnostic software was useful only in servicing the same computer equipment. The manufacturer denied a software license request from some customers who desired to have a third party service provider use the diagnostic software to provide them with computer repair services. Because the manufacturer was willing to license the diagnostic software independently to companies who provided their own repair services, it was feasible to offer the software and repair services separately.

The same defendant and virtually the same set of facts arose in *Service & Training, Inc. v. Data General Corp.* The district court ruled that since the diagnostic software was "merely one feature of Data General's integrated and unified product — computer servicing," and the only purpose of the software was to repair computer systems, the diagnostic software and repair services were "inextricably bound together." The appellate court overruled the trial court, agreeing with the *Grumman Systems* court that diagnostic software and repair services were two distinct products. The Fourth Circuit found insufficient evidence of separate products because the defendant, while willing to license the diagnostic software alone to certain companies, produced no evidence that there was consumer demand for such services.

The same defendant reappeared in *Digidyne Corp. v. Data General Corp.* This time, however, the defendant tied the sale of its central processing unit to the licensing of its operating system. Because there was customer demand for each product separately and the products could be provided separately, the court found that the central processing unit and the software were separate items capable of being tied. The central

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111. *Datagate*, 941 F.2d at 866.
112. *Virtual Maintenance*, 957 F.2d at 1323; *Datagate*, 941 F.2d at 870.
114. *Id.* at 193.
116. *Id.* at 684 (citing *Service & Training, Inc. v. Data General Corp.*, 737 F. Supp. 334, 343 (D. Md. 1990)).
117. *Id.* at 684.
118. *Id.* at 685. In the end, though, the court found no tie because of the lack of proof of a conspiracy. *Id.* at 685-88.
120. *Id.* at 1338-39; *see also Lasercomb Am., Inc. v. Reynolds*, 911 F.2d 970, 972-73 & n.6 (4th Cir. 1990) (computer hardware and software could be distinct items); *3 P.M., Inc. v.*
theme of *Digidyne* and similar cases is that courts are quite willing to find distinct products in computer-related industries.

The recent decision in *Kodak*, while not involving computer systems, also may have a strong impact on analyzing the existence of distinct markets where services for technology products are involved. The Supreme Court in *Kodak* noted that "the development of the entire high-technology service industry is evidence of the efficiency of a separate market for service." The Court thereby found that there could be a market for servicing Kodak copier equipment that was separate from the market for Kodak copier parts. The Court possibly was influenced by the number of third party suppliers of copier maintenance services already in existence that were affected adversely by Kodak's policy. Some believe that *Kodak* stands for the rule that, in cases of tying a high-technology product and related services, there is always a services market separate from the market for the product itself. Thus *Kodak*, together with *Virtual Maintenance*, *Datagate*, and the rest, may form the basis for a court to conclude that software and services are separate markets.

Despite this case law, a tying claim involving software and services warrants a different conclusion based upon the unique characteristics of software technology. The impact of *Kodak* on a software tie ought to be minimal. The decision was on a summary judgment ruling, holding only that the existence of separate products is properly a fact determination that requires a trial on the merits. Moreover, the *Kodak* Court's comment concerning the high-technology industry should properly be considered dictum, or in any case, not applied to software. Contrary to *Kodak*'s broad pronouncement of the distinctness of service markets in high technology industries, maintenance services for software products are fundamentally different. Likewise, tying arrangements between hardware and software are not entirely analogous to those between software and related services. While there is reason to believe that the hardware and software markets are distinct markets, any division between software and maintenance services is not so clearly defined. Consumers commonly purchase licenses to software and maintenance services in packages, or at least purchase software maintenance from the same vendor that developed the software.

Bundling of software licenses with maintenance services is a common practice. Such practice promotes efficiency by allowing the developer to improve product performance after the initial license sale, which in turn serves to promote consumer acceptance of the product. Customers, consequently, benefit by access to the developer's improvements. Indeed, the innovative capability of the developer can be a primary consideration of

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Basic Four Corp., 591 F. Supp. 1350, 1354-55 (E.D. Mich. 1984) (computer hardware products and computer maintenance services were distinct items).
123. *See* *Eastman Kodak v. Image Technical Servs.*, 112 S. Ct. at 2080 ("Enough doubt is cast on Kodak's claim of a unified market that it should be resolved by the trier of fact.").
potential software licensees who appraise the future promise of the software in addition to evaluating the current technology. Inasmuch as the item being purchased is the right to use the software as further corrected, modified and enhanced, customers may reasonably view software and maintenance services as a single product.

Furthermore, the functional integration of the results of maintenance service—such as software code fixes, modifications, and enhancements—with the underlying software code seems to argue for a finding of a single product. This conclusion does not undermine the admonition of the Court that the determination as to whether a single product exists "turns not on the functional relation between them, but rather on the character of the demand for the two items."124 Clearly, there is no demand for the purchase of software maintenance services apart from the purchase of the software license itself since the maintenance is useless without the software.125 At the same time, other software maintenance providers may not be able to lawfully provide similar services.

Maintenance of a software product generally requires access to the human-readable source code. But many vendors do not provide their licensees with source code, giving them only the object code necessary to run the program. Those that do provide the source code concurrently prohibit licensees from disclosing it to any third party. These measures are legitimate precautions necessary to protect the trade secrets revealed in the source code. Further, copyright law provides that software developers have the sole right to maintain copyrighted source code and to create derivative works therefrom. By virtue of trade secret and copyright protection, then, third party service providers are precluded from accessing the source code necessary to render maintenance services on the software. As a result, no separate market for maintenance of proprietary software programs can exist without the authorization of the software developer. Where no service competitors are foreclosed from providing maintenance services, no antitrust concerns are implicated.

Before enjoining software tying arrangements by concluding that distinct products exist, courts should consider the policy implications. Product innovation is the mainstay of the software industry. For software developers, license and maintenance services packages allow them to continue improving the performance and efficiency of the software. The still maturing software industry needs room to grow, and this requires that a more flexible approach be applied than the traditional tying analysis. Courts must recognize the competitive needs of the software industry in determining whether software and related services are two distinct products or merely a single product composed of technology, both current and

125. For example, the court in Allen-Myland, Inc. v. IBM, 693 F. Supp. 262 (E.D. Pa. 1988), dealt with a hardware vendor who sold upgraded hardware parts with services to install such parts. Because there was no demand for the services separate from the demand for the parts themselves, the plaintiff was unable to establish a separate demand for the services. Id. at 289.
future. The courts' failure to recognize the software industry's competitive needs results in uncertainty for software developers. This uncertainty would naturally inhibit further research and development following the initial marketing of a software product, without any corresponding value to the interests of consumers. Software developers would then have to choose between foregoing the economic advantages of combining software and services or risk incurring antitrust treble damages. A flexible approach to resolving the single product issue, however, allows software developers to enhance and improve their product, thus enabling them to compete vigorously. The goals of encouraging innovation, of properly recognizing industry practice, and of promoting competition would thereby equitably be met.

IV. Presumption of Market Power

Appreciable economic power is presumed to exist in Sherman Act tying cases when the tying product is patented.126 The rationale for this judicially-created presumption is that the grant of a patent or similar monopoly over a product means that the buyer cannot purchase the product elsewhere, thus giving the seller market power.127 The presumption derives from cases involving "patent misuse," a doctrine which prevents a patentee from exceeding its lawful monopoly rights granted under the patent laws to gain advantage in another market.128 Patent misuse is traditionally an affirmative defense to an infringement action that, if proven, results in the effective suspension of the holder's statutory patent rights during periods of misuse.129 Conduct may constitute patent misuse without rising to the level of an antitrust violation.130 While today the doctrine of patent misuse is applied to a variety of conduct,131 it originated from tying arrangements in which unpatented staple goods were tied to patented products.132

127. Jefferson Parish, 466 U.S. at 15-17. The concurrence in Jefferson Parish recognized, however, that the presumption of market power is not always justified since "a patent holder has no market power in any relevant sense if there are close substitutes for the patented product." Id. at 37 n.7 (O'Connor, J., concurring).
After Congress indicated its disdain for tying by enacting the Clayton Act, which expressly prohibited tying arrangements in goods, the Supreme Court eventually borrowed the standard for patent misuse and adapted it for antitrust tying claims. The Court announced that the use of a patent monopoly to control competition in the market for an unpatented product was, without more, an antitrust violation. This "cross-fertilization" between antitrust and patent misuse doctrine resulted in the creation of the Sherman Act per se tying doctrine and the presumption of market power.

The Supreme Court extended the presumption to copyrighted products in United States v. Paramount Pictures, Inc. The defendant in Paramount engaged in block booking of copyrighted feature films for movie theaters. By block booking, the defendant tied the license of a desired film to acceptance of the block of unwanted films. The Court reviewed congressional intent behind the intellectual property laws, noting that the "copyright monopoly" granted by Congress was intended to benefit primarily the public by inducing creators to release their work, whereas reward to the copyright owner was merely a secondary consideration. Drawing upon prior patent misuse cases, the Paramount Court essentially adopted the reasoning underlying the patent misuse rule. Any attempt to extend the scope and value of one copyright to another product by way of a tie, the Court ruled, should be condemned. Accordingly, the defendant violated the Sherman Act for block booking copyrighted films. In so ruling, the Paramount Court made no distinction between the rights granted by patent law and the more limited rights granted by copyright. Nor did the Court undertake any real analysis of antitrust principles. The Paramount decision seems to be based simply on the finding that the defendant improperly exceeded its intellectual property rights rather than finding any separate violation of the antitrust laws.


[I]t shall be unlawful for any person engaged in commerce, in the course of such commerce, to . . . make a sale or contract for sale of goods, wares, merchandise, machinery, supplies or other commodities, whether patented or unpatented, . . . on the condition, agreement or understanding that the . . . purchaser thereof shall not use or deal in the goods, wares, merchandise, machinery, supplies or other commodities of a competitor or competitors of the . . . seller, where the effect of such . . . sale, or contract for sale or such condition, agreement or understanding may be to substantially lessen competition or tend to create a monopoly in any line of commerce.


136. Burchfiel, supra note 132, at 35.

137. See International Salt Co. v. United States, 332 U.S. 392, 396 (1947) ("Not only is price-fixing unreasonable, per se . . . but also it is unreasonable, per se, to foreclose competitors from any substantial market.").

138. 334 U.S. 131, 156-59 (1948).

139. Id. at 158.

140. Id. at 159.

141. Id. at 157-58.
In United States v. Loew's Inc., the Supreme Court revisited its holding in Paramount. Again, the tie at issue involved the block booking of movies. Though making no effort to consider the differences between patents and copyright, the Loew's Court improved upon Paramount by analyzing independently the issues in an antitrust context. In affirming the presumption of market power for copyrighted products, the Court first appraised the anticompetitive effects of patent rights. The Court posited that since the goal of patent law is to reward uniqueness, a patented product must therefore itself be unique. In turn, a patent's distinctiveness meant that any tying arrangement involving a patented product necessarily has anticompetitive consequences. Citing Paramount, the Court summarily adopted this logic for copyrighted products, thereby indicating that any copyrighted product was legally and economically unique. Considerations of market share and the availability of alternative products were deemed irrelevant. The Court further noted that in the battle between the “statutorily dispensed monopoly” in patented or copyrighted products and principles of free competition, the latter must prevail. Nonetheless, the Court did allow for future arguments that the presumption of economic power does not apply to particular patented or copyrighted products:

There may be rare circumstances in which the doctrine we have enunciated under § 1 of the Sherman Act prohibiting tying arrangements involving patented or copyrighted tying products is inapplicable. However, we find it difficult to conceive of such a case, and the present case is clearly not one.

Citing the decisions in Paramount and Loew's, other courts have applied the presumption of economic power when the tying product was copyrighted software. For example, the defendant in Digidyne Corp. v. Data General Corp. bundled the license of its copyrighted operating system with the purchase of its central processing units. Expressly following Loew's, the Ninth Circuit ruled that the copyright monopoly in the software was sufficient to give rise to a presumption of requisite economic power in that market. The court declined to consider evidence of functionally equivalent operating systems, stating that competing substitutes

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143. The facts were slightly different, though, in that the films in Loew's were sold to television stations rather than movie theaters. Still, the factual difference was immaterial to the Court's resolution. Loew's, 371 U.S. at 47-48.
144. Id. at 46.
145. Id.
146. Id. at 47 (citing United States v. Paramount Pictures, Inc., 334 U.S. 131, 158 (1948)).
147. Id. at 47-48.
148. Id. at 49.
149. Id. at 49-50. More recently, the Supreme Court cited the Paramount and Loew's rule that a patent or similar monopoly will give rise to a presumption of market power. Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 16 (1984); Fortner II, 429 U.S. 610, 621 (1977).
151. Id. at 1342. One lower court construed the Digidyne decision as relying upon more than just the copyrighted software. The district court in Telerate Sys., Inc. v. Caro, 689 F. Supp. 221, 236 (S.D.N.Y. 1988), noted that the basis of the market power in Digidyne was the fact that many users were financially locked into the defendant's operating system because it
did not destroy the legal or economic distinctiveness of a copyrighted product.\footnote{152}{Digidyne, 734 F.2d at 1342. The appellate court also noted that there was evidence that the defendant's software could not be reproduced without infringing on the defendant's copyright and utilizing the defendant's trade secrets, which would require millions of dollars and years of effort. The defense attempted to justify the tying by arguing that it was necessary to allow the defendant to recover its research investment in developing the software. Unpersuaded, the Ninth Circuit commented that an obvious, less restrictive alternative was simply to restructure its prices for the software to reflect the relevant investment costs. \textit{Id.} at 1344. The First Circuit impliedly agreed with \textit{Digidyne} in Grappone, Inc. v. Subaru of New England, Inc., 858 F.2d 792, 798 (1st Cir. 1988) (concluding that the plaintiff had not shown the existence of market power, the court, citing \textit{Digidyne}, noted that the "plaintiff has made no showing that [the tying product] had any special or unique features, such as patent or copyrights, that might demonstrate market power.")}

In contrast to the Ninth Circuit's decision in \textit{Digidyne}, the Sixth Circuit flatly rejected an absolute presumption of market power for copyrighted or patented products. In \textit{A.I. Root Co. v. Computer/Dynamics, Inc.},\footnote{153}{806 F.2d 673 (6th Cir. 1986).} the Sixth Circuit acknowledged that a patent or copyright holder had no market power if close substitutes to the patented or copyrighted item were available. The court described \textit{Loew's} as "overbroad and inapposite to the instant case,"\footnote{154}{\textit{Id.} at 676.} and further distinguished \textit{Digidyne} based on a fundamental difference in the facts.\footnote{155}{\textit{Id.} at 677.} Whereas the Ninth Circuit found that the software in \textit{Digidyne} was particularly unique and recognized as the best in the industry, the operating software in question in \textit{A.I. Root} was not especially unique or appealing.\footnote{156}{\textit{Id.}} Because the \textit{A.I. Root} software had close substitutes, the fact that the software was copyrighted was not determinative of market power.\footnote{157}{\textit{Id.} at 676.} With no further proof of market power present, the court found no illegal tying arrangement.\footnote{158}{\textit{A.I. Root}, 806 F.2d at 675.}

As the Sixth Circuit implicitly realized, the presumption of market power as applied to copyrighted products is archaic and misapprehends the fundamental nature of copyright law. There are generally three arguments for the elimination of any presumption of market power for copyrighted software products: (1) the casual application of a rule developed for patent misuse defenses to cases involving copyrights ignores the tremendous disparity between patent and copyright law;\footnote{159}{See \textit{infra} notes 162-171 and accompanying text.} (2) the minimal legal power attained under the copyright law does not equate with the sort of economic force that is the basis of antitrust market power;\footnote{160}{See \textit{infra} notes 172-181 and accompanying text.} and (3)
the presence of alternative software products demonstrates that any presumption of market power is inappropriate to computer software.\textsuperscript{161}

A. Application of Patent Rule to Copyrights

The historical basis for applying the presumption to copyrighted products is founded upon an inherently flawed analogy to patent misuse cases. For instance, \textit{Paramount} and \textit{Loew's} relied upon considerations of patent misuse and were not based on any concept of copyright misuse. The obvious reason was that, at the time of those decisions, copyright misuse was not an accepted doctrine. The Court made no mention of this crucial inconsistency in either case, apparently ignoring the issue in its unwavering attempt to link patent misuse with antitrust claims involving tying of copyrighted films. Indeed, even today, much skepticism remains as to whether copyright misuse is a valid theory or simply a mistaken expansion of the patent misuse doctrine.\textsuperscript{162}

Patent misuse is not an independent antitrust violation, but is more properly a defense to an action for patent infringement.\textsuperscript{163} Because a party need not show any anticompetitive effects to establish misuse, conduct that may qualify as patent misuse in an infringement action will not necessarily qualify as an antitrust violation.\textsuperscript{164} Similarly, to show misuse a party does not have to prove that it was harmed, while an antitrust plaintiff must establish injury in his or her business or property.\textsuperscript{165} Thus, when patent misuse is proven in an antitrust action, a court must still conduct a separate analysis to determine if the patent misuse violates the antitrust laws. In this respect, the \textit{Paramount} decision,\textsuperscript{166} in which the Court concluded that an antitrust violation had occurred based solely on the finding that the defendant had attempted to expand its copyright to other products, is clearly unjustified.

Congress itself perceived the inappropriateness of the presumption of market power. After much debate about the inequity of the presumption, Congress amended the Patent Act to provide that a patent holder will not be guilty of patent misuse by reason of having

\begin{footnotesize}
\begin{enumerate}
\item See infra notes 182-187 and accompanying text.
\item See Morton Salt Co. v. G.S. Suppiger Co., 314 U.S. 488 (1942) (upholding patent misuse defense while denying antitrust claim).
\item See supra notes 138-141 and accompanying text.
\end{enumerate}
\end{footnotesize}
conditioned the license of any rights to the patent or the sale of
the patented product on the acquisition of a license to rights in
another patent or purchase of a separate product, unless, in view
of the circumstances, the patent owner has market power in the
relevant market for the patent or patented product on which the
license or sale is conditioned.\textsuperscript{167}

Thus, Congress expressed its disagreement with the judicially-created pre-
sumption of market power, at least in the context of patent misuse de-
fenses. Inasmuch as the presumption of market power in antitrust tying
cases is historically based on rules developed in patent misuse, and not
copyright misuse cases, the fact that the patent misuse law has now
changed to eliminate any presumption of market power provides ample
grounds for courts to abolish the presumption in antitrust actions involv-
ing copyrights.\textsuperscript{168}

It is equally incongruous to apply mechanically a rule developed in
the context of patents to cases involving copyrights. Any analogy between
patents and copyrights is intrinsically suspect. A copyright holder’s exclu-
sive rights are much more limited than patent rights. A patent provides a
strong exclusionary power: once a patent is granted, no one else has the
right to develop independently the same or a substantial equivalent to the
patented product.\textsuperscript{169} The copyright holder, however, simply retains the
sole right to reproduce, distribute, and create derivative works of the copy-
righted work.\textsuperscript{170} Copyright law does not forbid others from indepen-
dently creating identical works, nor does it protect the ideas underlying
the copyrighted work. Thus nothing in the Copyright Act prohibits a po-
tential licensee from using the ideas derived from a copyrighted product
and creating a similar work, provided that the underlying copyrighted
product is not unlawfully copied.

In sum, the exceptional disparity in the exclusive rights granted by
patent law as opposed to copyright law makes blind analogies between pat-
ent and copyright dubious at best.\textsuperscript{171} As the Paramount and Loew’s hold-

\textsuperscript{168} Still, the House of Representatives deleted a corresponding proposal to eliminate
the patent and copyright presumption of market power applied in antitrust tying cases. 134
Oct. 21, 1988) (even after the House deleted the proposal to destroy the presumption in
antitrust cases, Senator Leahy averred that “the Senate is clearly sending a message to the
courts that they would be mistaken to continue to apply any presumption of market power
involving intellectual property rights as automatically granting meaningful economic power
over a particular market in antitrust cases”) \textit{with} Grid Sys. Corp. v. Texas Instruments, Inc.,
771 F. Supp. 1033 (N.D. Cal. 1991) (ruling that the amendment to the Patent Act did not
implicitly revoke Supreme Court precedent establishing a presumption of market power in
antitrust tying cases). If the court in \textit{Grid Systems} is correct, the following anomaly results:
in the same case, the court will require evidence of market power in analyzing the patent misuse
defense to an infringement action, while at the same time presuming market power in ruling
on the antitrust claim. \textit{See} Burchfiel, \textit{supra} note 132, at 25.


\textsuperscript{170} \textit{Id.} § 271. \textit{See supra} note 25 and accompanying text.

\textsuperscript{171} \textit{See} Ralph C. Wilson Indus., Inc. v. Chronicle Broadcasting Co., 794 F.2d 1359 (9th
Cir. 1986) (using a different standard to analyze territorial restraints under copyright than
that which would have been applied to similar restraints under a patent).
ings rest on an analogy to patent cases, the precedential value of such decisions should now be highly questionable.

B. Presumption of Market Power Is Not Economically Sound

Perhaps the most fundamental criticism of the presumption of market power is that the presumption finds little basis in economic reality. A copyright does not truly confer market power by itself.\textsuperscript{172} As many artists have experienced, the creation of a copyrighted product does not dictate that there will be any demand for it or that the product will be more enticing to consumers than any other product.\textsuperscript{173} Rather, the various attributes of the particular product and the reputation of the creator will determine its desirability. For instance, an unknown singer may record her music, but the mere fact that the music is copyrighted will not foster any demand for the recording. There is no singular characteristic, then, that makes copyrighted material inherently more desirable to the public than any other product.

The presumption of market power assumes that there are no substitutes because of the legal power granted by the copyright. One obvious deficiency in that assumption is based on the copyright rule, which provides that ideas that can be expressed only in one way are not copyrightable.\textsuperscript{174} Thus, material is by statute copyrightable only if functional equivalents are possible.\textsuperscript{175} Similarly, copyright law does not prevent others from duplicating the ideas and developing equivalent products.\textsuperscript{176} Nor does copyright law prohibit independent development of even the copyrightable aspects of a product. Where others are thereby free to produce their own equivalents, copyright holders may achieve little market power. The availability of substitutes from competitors necessarily defies any presumption of market power.\textsuperscript{177}

\textsuperscript{172} For this reason, a number of commentators have argued against the presumption of market power. See Warren G. Lavey, \textit{Patents, Copyrights, and Trademarks as Sources of Market Power in Antitrust Cases}, 27 \textit{ATRUS. BULL.} 433 (1982); William Montgomery, Note, \textit{The Presumption of Economic Power for Patented and Copyrighted Products in Tying Arrangements}, 85 \textit{COLUM. L. REV.} 1140 (1985); Note, \textit{An Economic Analysis of Royalty Terms in Patent Licenses}, 67 \textit{MINN. L. REV.} 1198 (1983).

\textsuperscript{173} See Rosemary S. Thompson, Comment, \textit{Old Laws v. New Technology: Antediluvian Antitrust Tying Prohibitions and Operating System Software}, 2 \textit{SOFTWARE L.J.} 221, 238 (1988) ("As many poor software developers, authors, and artists can attest, the granting of copyright does not automatically create economic power resulting from demand for a product.").


\textsuperscript{175} See supra notes 24-25 and accompanying text.

\textsuperscript{176} See Data Cash Sys., Inc. v. JS&A Group, Inc., 480 F. Supp. 1063 (N.D. Ill. 1979), aff'd, 628 F.2d 1038 (7th Cir. 1980).

\textsuperscript{177} See Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 37 n.7 (1984) (O'Connor, J., concurring) (recognizing that sellers of patented or copyrighted products have no market power "in any relevant sense if there are close substitutes for the patented product"); Locite Corp. v. Ultraseal, Ltd., 781 F.2d 861, 875 n.9 (Fed. Cir. 1985) (commenting that a patent does not necessarily confer market power); Telerate Sys., Inc. v. Caro, 689 F. Supp. 221, 235-39 (S.D.N.Y. 1988) (the existence of a copyright is not the only factor in determining market power); 3 P.M., Inc. v. Basic Four Corp., 591 F. Supp. 1350, 1359 (E.D. Mich. 1984) (the fact that defendant's software was copyrighted did not establish the defendant possessed economic power); see also Burchfiel, supra note 132, at 74 ("It is clear that in an economic sense,
The "fair use" exception to the copyright law, which permits limited free use of a copyrighted product for news reporting and educational purposes, further diminishes the market power that a copyright accords. Additional handicaps to obtaining market power by virtue of a copyright include the public's right to library and archival reproduction of copyrighted material.

The presumption of market power also fails because it does not consider cross-elasticity of demand by consumers. Where substitutes are available, consumer demand may be quite responsive to price changes in any particular product. This means that if two products are essentially equivalent in the eyes of the public, an increase in the price of one will cause consumers to shift their purchase to the other product. Thus, cross-elasticity of demand would tend to negate market power. Because the subject matter of copyrighted products is highly substitutable, the presumption of market power makes no economic sense.

These arguments make clear the importance of distinguishing between legal and economic power. The limited legal power granted by intellectual property law does not automatically equate to any economic power that may result therefrom. Because a copyright does not inherently create economic power in any relevant sense, the presumption of market power is unwarranted.

C. The Presumption Is Inappropriate for Software

Even assuming that the presumption of market power is conceivably justified in some copyrighted product markets, it is inappropriate for software technology. As an example, the presumption of economic power may be more acceptable as applied to movies since it is the expression itself that makes a movie valuable. The trial court in Loew's recognized that the block-booked feature films "varied in theme, in artistic performance, in stars, in audience appeal, etc." Certainly Havana will not suffice for viewers who wish to see Casablanca, although both carry the same underlying theme. It is the expression, then, that bestows the essential
value of the film. Unlike movies, however, the primary value of software tends to be the ideas or the underlying functionality contained in the software, rather than the expression. Typically, users are principally concerned with the functions that a program provides and may well be unable to distinguish between two functionally equivalent programs, despite the fact that neither is a copy of the other. In such circumstances, neither of the equivalent programs would necessarily capture any significant market power, particularly if other alternatives are available.

Perhaps an example will best illustrate the point. ABC Company independently develops a computer program for balancing a checkbook. ABC’s program is rather basic, without exceptional features not found in any of the other checkbook balancing programs. If ABC were to tie its program to the purchase of pre-printed checks, it would be presumed under the Paramount edict to have market power in the market for the computer software program. But the facts may strongly refute the presence of any economic power capable of forcing consumers to purchase the package. Assuming ABC Company has no other copyrighted programs that provide similar functionality, it would have minimal market share, if any. Despite Loew’s contention that all copyrighted products are unique, the program may not be particularly unusual or distinctive in a way discernible to consumers. Yet ABC Company would be penalized by a presumption that, in this instance, bears no relation to economic reality.

Furthermore, even if a software developer attains some competitive advantage upon the introduction of an innovative new software product, any corresponding market power may be short-lived. Technology changes rapidly in software markets, with consumer demand quickly shifting to the latest innovation. As with other high technology industries, software developers attempt to duplicate or even to improve the functionality of their competitors’ products. Consequently, the development of a desirable new product may actually serve to encourage competition and lead to the creation of better products. In short, because the desire for software is substantially different from that for movies, courts should not extend the presumption of market power created under Paramount and Loew’s to software products.

band miraculously reappears alive, the hero in each risks his life in order to save the woman and her husband, allowing the couple to escape the husband’s political enemies, together and unharmed, leaving the hero alone. Despite Robert Redford’s playing the male lead in Havana, the movie achieved less than rave reviews and is relatively unrenowned. Casablanca, on the other hand, starring Humphrey Bogart and Ingrid Bergman, received several Academy Awards and is one of the best-loved movies of all time.


185. Although examples can invariably be drafted to prove there are exceptions to virtually every rule, the illustration provided is not an extreme one. With computer programming rapidly becoming a standard skill, the number of copyrightable computer programs in existence is abundant. Many functions may each be accomplished by a variety of programs, thus leading to the conclusion that few program functions are actually unique or distinctive.
SOFTWARE TYING ARRANGEMENTS

It is clear that the market power presumption developed in yesterday's world of goods does not always apply to today's complex technology. Existing case law reflects the courts' willingness to modify certain antitrust rules in the face of changing market practices. Courts should do the same in this context. Recognition that the presumption of market power is inapposite to copyrighted software would properly account for the relevant market realities, while not diminishing the goals of antitrust law. Despite the convincing arguments against the presumption of market power, it would be equally senseless to disregard entirely the fact that a tying product is copyrighted. Certainly, the advantages obtained from a patent, copyright, trade secret, or similar right, may have some bearing on the analysis. The point is that a copyright should not by itself prove economic power.

VI. VALIDITY OF A FLEXIBLE APPROACH

Recognition that a particular industry exhibits unique competitive circumstances that mandate the use of a more flexible approach is not without precedent. The Supreme Court has approved of less restrictive rules when circumstances failed to justify per se rules. For example, in NCAA v. Board of Regents, the Supreme Court considered horizontal price fixing and output limitations by the athletic association. Typically, horizontal restraints of trade are among the classes of activity considered per se violations of the antitrust rules. However, the Court concluded that despite the general rule, it would be inappropriate to apply the per se rule be-

186. See, e.g., Continental T.V., Inc. v. GTE Sylvania Inc., 433 U.S. 86, 54-59 (1977) (acknowledging that the previous per se rule against territorial restraints might preclude clearly pro-competitive conduct); Moraine Prods. v. ICI Am., Inc., 538 F.2d 134, 143-46 (7th Cir.) (conceding that a per se rule condemning the practice of licensing only certain persons could critically affect technology development), cert. denied, 429 U.S. 941 (1976).

In his renowned treatise on trade secrets, Professor Milgrim argues for judicial review, from time to time, of archaic per se rules and policies which may no longer suffice: [My] bias is not necessarily against the antitrust laws insofar as they serve the intended purpose, but rather against a blind adherence to rules and principles enunciated in one context and then slavishly, perhaps unthinkingly, applied to all following factual configurations, no matter how imperfectly the concepts and their formulations fit the later facts. Most simply put, the antitrust rules enunciated in simpler times and a less trying economic, social and political climate, cannot possibly be exempt from scrutiny, discussion, criticism and question if our country is to face the challenges of today.

187. While it is fallacious to presume market power simply because a software product is copyrighted, such a presumption is more clearly erroneous when applied to trade secrets. A software program's source code may be protected under trade secret laws, and the exclusivity rights associated with trade secrets are far less extensive than those granted by patents or copyrights. So long as they do not employ unfair or dishonest means, any competitor or customer is free to develop identical trade secrets. Such freedom greatly decreases the anticompetitive effect of restraints that trade secret licensors may attempt to impose. As a result, trade secrets should not induce a presumption of market power. See 5 P.M., Inc. v. Basic Four Corp., 591 F. Supp. 1350, 1359 (E.D. Mich. 1984); Belvis, supra note 90, at 272 n.33 (noting that the presumption of market power has never been applied to trade secrets).


cause the case involved "an industry in which horizontal restraints on competition are essential if the product is to be available at all."\textsuperscript{190} The Court therefore applied the rule of reason, noting that regardless of the type of analysis—per se or rule of reason—the ultimate inquiry to determine whether the challenged restraint lessened competition remained the same.\textsuperscript{191}

In \textit{Northwest Wholesale Stationers, Inc. v. Pacific Stationery & Printing Co.},\textsuperscript{192} the Supreme Court was confronted with a group boycott by wholesale purchasing cooperatives. While acknowledging that group boycotts are normally considered per se anticompetitive, the Court conceded that the conduct in question was "not a form of concerted activity characteristically likely to result in predominantly anticompetitive effects."\textsuperscript{193} Accordingly, the Court ruled that the district court properly rejected application of the per se rule to the group boycott in question.\textsuperscript{194}

Indeed, the Court has affirmatively stated that there should be a presumption in favor of using the rule of reason.\textsuperscript{195} Based on such precedent, and recognizing that software tying arrangements may have procompetitive effects, the courts should be willing to use more flexible standards in examining the anticompetitive impact of software tying arrangements.

\textbf{CONCLUSION}

Applying the rigid rules developed in decisions involving tying arrangements to software and maintenance packages is contrary to the important policy of encouraging innovation. The survival of the software industry and of its members depends upon the ability of software developers to improve the performance, functionality, and efficiency of their software. It seems entirely inconsistent with the goal of fostering research and development to use the antitrust label to prohibit mechanistically a software licensor from selling a combination of software and maintenance services, when the net effect of such a package is socially and economically desirable. Accordingly, the courts should use a more flexible standard in testing the antitrust implications of software/maintenance packages. A good starting point would be to recognize that such packages may indeed be an integrated, single product and that the presumption of market power applied to copyrighted products is inapplicable to software technology and unsupported by economic reality. By making an effort to interpret antitrust laws as consistent with the goals of intellectual property protection, the courts will properly foster an innovative spirit that will benefit software developers and society alike.

\begin{footnotes}
\item[190.] NCAA v. Board of Regents, 468 U.S. at 101.
\item[191.] Id. at 103-04.
\item[192.] 472 U.S. 284 (1985).
\item[193.] Id. at 295.
\item[194.] Id. at 298.
\end{footnotes}