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ADVERSE POSSESSION FOR INTELLECTUAL PROPERTY: ADAPTING AN ANCIENT CONCEPT TO RESOLVE CONFLICTS BETWEEN ANTITRUST AND INTELLECTUAL PROPERTY LAWS IN THE INFORMATION AGE

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I. INTRODUCTION

Is a unilateral[1] refusal to license or sell intellectual property immune from a claim of monopolization or attempted monopolization under the Sherman Act? Does the answer change if the product in question is a new or an existing product? Does it matter whether the intellectual property rights are protected by copyright rather than patent? Although in 1992 the Supreme Court addressed these issues somewhat obliquely in *Kodak v. Image Technical Services* ("*Kodak I*"),[2] these questions assumed new urgency in 2000 after the Federal Circuit created a split in the circuits by ruling in *CSU v. Xerox* that patent holders "may enforce the statutory right to exclude others from making, using, or selling the claimed invention free from liability un-

1. By unilateral, we mean non-collusive. *See* BLACK'S LAW DICTIONARY 1532 (7th ed. 1999); *see also* HERBERT HOVENKAMP, MARK D. JANIS, & MARK A. LEMLEY, IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW (2002), §13.4 (distinguishing unilateral refusals from conditional and/or concerted refusals) [hereinafter IP AND ANTITRUST].

2. Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451 (1992) [hereinafter *Kodak I*]. Within the Court's discussion of tying, footnote 29 of that opinion states that "power gained through some natural and legal advantage such as a patent, copyright, or business acumen can give rise to liability if 'a seller exploits his dominant position in one market to expand his empire into the next.'" *Id.* at 480, n.29 (citations omitted). At the time, however, intellectual property rights were not an issue before the court. *See* Jonathan Gleklen, "Antitrust Liability for Unilateral Refusal to License Intellectual Property: *Xerox* and its Critics," 6, unpublished manuscript *available at* http://www.ftc.gov/opp/intellect/020501gleklen.pdf (stating that "[F]ootnote 29 can be characterized as *dicta* because the *Kodak* case did not involve the rights of intellectual property owners — the only evidence before the Court was that none of Kodak's parts were patented.").

der the antitrust laws."[3] The Federal Circuit expressly declined[4] to follow a Ninth Circuit ruling that held antitrust liability could be imposed for almost identical conduct, depending on the motivation of the patent holder.[5] The District of Columbia Circuit's statement in *United States v. Microsoft* ("*Microsoft 2001*")[6] that Microsoft's assertion that its copyrights on its software programs entitled it to impose restrictions on its original equipment manufacturer ("OEM") licensees was "no more correct than the proposition that use of one's personal property, such as a baseball bat, cannot give rise to tort liability"[7] only added fuel to the firestorm of controversy.

The depth of this quandary became even more evident when, presented with a seemingly obvious split in the circuits, the Solicitor General suggested that the U.S. Supreme Court deny certiorari in the *Xerox* case to "allow these difficult issues to percolate further in the courts of appeals."[8] Indeed, the Antitrust Division of the Justice Department and the Federal Trade Commission held an entire day of hearings on exactly these questions as part of their series of hearings on competition and intellectual property policy.[9] The hearings produced a substantial amount of thought and discussion, but no clear solution.

This Article focuses on two related questions. First, under what circumstances must the holder of a patent or a copyright or the owner of a trade secret allow others to use that intellectual property? Second, under what circumstances can the holder of an intellectual property right use that right to make it difficult for another party to succeed in a related market?

Given that determining antitrust liability for refusing to deal is already "one of the most unsettled and vexatious [questions] in the anti-

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3. CSU, LLC v. Xerox Corp. (*In re* Independent Service Organizations Antitrust Litigation), 203 F.3d 1322, 1327 (Fed. Cir. 2000), *cert. denied*, 531 U.S. 1143 (2001) [hereinafter *Xerox*].

4. *See id*.

5. *See* Image Technical Servs., Inc. v. Eastman Kodak Co., 125 F.3d 1195 (9th Cir. 1997), *cert. denied*, 523 U.S. 1094 (1998), [hereinafter *Kodak II]*.

6. United States v. Microsoft Corp., 253 F.3d 34, 62 (D.C. Cir. 2001) [hereinafter *Microsoft 2001*].

7. *Id*. at 63.

8. Brief for the United States as Amicus Curiae at 16, *Xerox*, 531 U.S. 1143 (2001) (No. 00-62), *available at* http://www.usdoj.gov/osg/briefs/2000/2pet/6invit/2000-0062.pet.ami.inv.html.

9. Department of Justice Antitrust Division & Federal Trade Commission, Hearing on Competition and Intellectual Property Law and Policy in the Knowledge Based Economy, "Strategic Use of Licensing: Is There Cause For Concern about Unilateral Refusals to Deal?" May 1, 2002, available at http://www.ftc.gov/opp/intellect/020501xscript.pdf.; *see also* R. Hewitt Pate, Acting Assistant Attorney General, Antitrust Division, U.S. Department of Justice, Address before the American Intellectual Property Law Association, (Jan. 24, 2003), *available at* http://www.usdoj.gov/atr/public/speeches/200701.htm (last visited April 2, 2003) ("[T]he joint DOJ/FTC IP hearings . . . examined a number of issues [including unilateral] refusals to license intellectual property").

trust field,"[10] the additional requirement of determining the scope of the intellectual property grant and the concomitant right to exclude makes this problem that much more complex.[11] In order to arrive at a potential solution, it is necessary to retrace briefly the jurisprudential path to see how this issue arose. Part II of this Article discusses some of the intellectual property and antitrust principles that should guide the development of any potential solution.[12] Part III then reviews the origin and propagation of the problem of intellectual property rights ("IPR") holders unilaterally refusing to deal. In Part IV we present our proposed solution, which calls for the application of the real property concept of adverse possession in the intellectual property arena, along with a slight extension of the Essential Facilities Doctrine for industries that exhibit network effects. Our proposed solution is designed to allow these cases to be resolved via summary judgment, and we demonstrate this potential judicial efficiency by applying our framework to various potential situations involving refusals to deal. In Part V we attempt to answer some potential critiques of our solution, and in Part VI we conclude with suggestions for further exploration.

II. IP AND ANTITRUST BASICS

A. Patents, Copyrights, and Trade Secrets

Intellectual property is any product or result of a mental process that is given legal protection against unauthorized use.[13] Intellectual property law identifies four categories of innovation — patents, copyrights, trade secrets, and trademarks — and provides separate protection for each.[14]

Although the present controversy focuses on patents and copyrights because they are the most likely forms of IP to be at issue in a refusal to license, refusal to disclose trade secrets has also been a problem in the antitrust context. As part of the consent decree settling the suit brought by the United States and a number of individual

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10. Byars v. Bluff City News Co., 609 F.2d 843, 846 (6th Cir. 1979).

11. Determinations of patent scope have huge economic implications. Josh Lerner has empirically demonstrated that patent scope significantly affects firm value. *See* Joshua Lerner, *The Importance of Patent Scope: An Empirical Analysis*, 25 RAND J. ECON. 319 (1994); *see also* Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839 (1990).

12. Certain aspects of the analysis and arguments presented in Part II were first introduced in Constance E. Bagley, "*United States v. Microsoft*: Application of the Antitrust Laws to the New Economy," Harvard Business School, N9-802-090 (Sept. 20, 2002).

13. *See generally* CONSTANCE E. BAGLEY, MANAGERS AND THE LEGAL ENVIRONMENT: STRATEGIES FOR THE 21ST CENTURY (4th ed. 2002), particularly Chapter 11.

14. Certain countries, such as the United States, have created additional areas of specialized intellectual property protection such as photolithography masks and plant variety patents.

states,[15] Microsoft Corporation is obligated to reveal certain trade secrets to competitors, for instance, providing early disclosure of its application programming interfaces ("APIs").[16]

A copyright includes the government-granted right to prevent others from copying the original expression embodied in a work.[17] The owner has exclusive rights to distribute, display, and perform the work, and to create derivative works.[18] It is the expression that is protected, not the ideas underlying the expression.[19] The exclusivity of copyright protection also has limits; certain "fair use" defenses are permitted, such as copying portions of the copyrighted work for "criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research."[20]

A patent is the government-granted right that protects any "useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof"[21] that is both novel[22] and non-obvious.[23] After a period of time the patent expires and the invention is dedicated to the public. The patent holder need not personally make use of the invention during the life of the patent to enjoy protection. Patents do not entitle the patent holder to make or sell the patented invention. Instead, what is granted is a right to exclude others from making, using, or selling the same invention. The exclusivity of the patent grant is not unlimited, however. The doctrine of patent misuse keeps the patent owner from overreaching and attempting to do more than is legitimately authorized under the patent grant. Most of the patent misuse cases[24] take the form of fraudulent procurement of a patent,[25] bad faith enforcement of a patent,[26] or some other form of

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15. United States v. Microsoft Corp., 231 F. Supp. 2d 144 (D.D.C. 2002) [herinafter *Microsoft 2002*].

16. Consent Decree, § III.D, New York v. Microsoft Corp., 224 F. Supp. 2d 76, 266 (D.D.C. 2002).

17. *See* 17 U.S.C. § 102 (2000) (protecting literary works, musical works, sound recordings, audiovisual works, sculptural works, pictorial works, computer programs, or any other original work of authorship fixed in a tangible medium of expression).

18. *See* 17 U.S.C. § 106 (2000).

19. *See* 17 U.S.C. § 102(b) (2000).

20. *See* 17 U.S.C. § 107 (2000). The statute specifies four factors for evaluating fair use:

> (1) the purpose and character of the use, including whether such use is of a commercial nature or is for non-profit educational purposes;
> (2) the nature of the copyrighted work;
> (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
> (4) the effect of the use upon the potential market for or value of the copyrighted work. *Id.*

21. *See* 35 U.S.C. § 101 (2000).

22. *See* 35 U.S.C. § 102 (2000).

23. *See* 35 U.S.C. § 103 (2000).

24. *See* DONALD S. CHISUM, ET AL., PRINCIPLES OF PATENT LAW 937–76 (discussing patent misuse).

25. *See* Walker Process Equip., Inc. v. Food Mach. & Chem. Corp., 382 U.S. 172 (1965).

antitrust violation involving the patent.[27] Unlike copyright, there is no "fair use" defense to patent infringement. "[E]xperimental use" of a patented invention is permitted but is "very narrow and strictly limited" to instances where the actions performed are "for amusement, to satisfy idle curiosity, or for strictly philosophical inquiry."[28]

Unlike copyrights and patents, which are based on federal law, trade secrets are protected by state laws, most of which are based on the Uniform Trade Secrets Act.[29] A trade secret is any process, innovation, or information that gives its owner a competitive advantage by reason of its being kept secret.[30] The owner of a trade secret has the right to prohibit anyone from engaging in the unauthorized use or disclosure of the trade secret for as long as the owner takes reasonable steps to keep it confidential.[31]

Given that the intellectual property laws grant exclusive rights to the holders of patents, copyrights, and trade secrets, it is not surprising that a regime with a predisposed hostility to monopolies, such as the antitrust system, would find aspects of the intellectual property regime problematic.

B. Antitrust Statutes

Section 1 of the Sherman Act provides that "[e]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations, is declared to be illegal."[32] Although the language in the statute is unequivocal, it has been interpreted to bar only "unreasonable" restraints on trade. As then-Judge Breyer explained: "Virtually *every* contract to buy 'forecloses' or 'excludes' alternative sellers from *some* portion of the market, namely the portion consisting of what was bought."[33]

Section 2 of the Sherman Act makes it a felony for a firm to "monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States."[34] The offense of monopolization has

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26. *See* Handgards, Inc. v. Ethicon, Inc., 601 F.2d 986 (9th Cir. 1979), *cert. denied*, 444 U.S. 1025 (1980).

27. We will examine whether a refusal to license a patent constitutes an antitrust violation in Parts III and IV *infra*.

28. Madey v. Duke Univ., 307 F.3d 1351, 1362 (Fed. Cir. 2002) (quoting Embrex Inc. v. Service Eng'g Corp., 216 F.3d 1343, 1349 (Fed. Cir. 2000)).

29. *See*, *e.g.*, CAL. CIV. CODE § 3426 (2003). Note that this and many other state statutes are based on the Unif. Trade Secrets Act (1985).

30. *See, e.g.*, CAL. CIV. CODE § 3426.1(D) (2003).

31. *See, e.g.*, CAL. CIV. CODE § 3426.2 (2003).

32. 15 U.S.C. § 1 (2000).

33. Barry Wright Corp. v. ITT Grinnell Corp., 724 F.2d 227, 236 (1st Cir. 1983) (emphasis in original).

34. 15 U.S.C. § 2 (2000).

two elements: "(1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident."[35]

C. Monopolization

The U.S. Supreme Court defines monopoly power as "the power to control prices or exclude competition" in the relevant market.[36] "Because the ability of consumers to turn to other suppliers restrains a firm from raising prices above the competitive level,"[37] the relevant market includes all products "reasonably interchangeable by consumers for the same purposes."[38] Definition of the relevant product market is critical. The broader the definition, the less dominant one firm's position will be.[39]

Having a monopoly does not by itself violate Section 2. A Section 2 violation occurs only when a firm acquires or maintains, or attempts to acquire or maintain, a monopoly by engaging in anticompetitive conduct.[40] As Judge Learned Hand explained, "The successful competitor, having been urged to compete, must not be turned upon when he wins."[41] Anticompetitive conduct includes refusal to deal and other exclusionary practices. In many cases, it is difficult to determine whether any particular act is exclusionary or merely a form of vigorous competition.

To be condemned as exclusionary, a monopolist's act must have an "anticompetitive effect" that harms the competitive process and thereby consumers. Harm to competitors, even if motivated by malice, is not enough.[42] The plaintiff bears the burden of demonstrating that the monopolist's conduct has the requisite anticompetitive effect. If the plaintiff successfully demonstrates anticompetitive effect, then

> the monopolist may proffer a "procompetitive justification" for its conduct. If the monopolist asserts a procompetitive justification — a nonpretextual claim

35. United States v. Grinnell Corp., 384 U.S. 563, 570–71 (1966).
36. United States v. E. I. du Pont de Nemours & Co., 351 U.S. 377, 391 (1956).
37. Rothery Storage & Van Co. v. Atlas Van Lines, Inc., 792 F.2d 210, 218 (D.C. Cir. 1986).
38. *E.I. du Pont de Nemours*, 351 U.S. at 395.
39. *See Microsoft 2001*, 253 F.3d 52. (Microsoft argued, unsuccessfully, that the relevant market was not just Intel-compatible PC operating systems but also middleware (such as Java or Internet browsers), hand-held computers, and the Apple Computer operating system.).
40. *See Grinnell*, 384 U.S. at 571.
41. United States v. Aluminum Co. of Am., 148 F.2d 416, 430 (2d Cir. 1945).
42. *See* Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 225 (1993).

> that its conduct is indeed a form of competition on the merits because it involves, for example, greater efficiency or enhanced consumer appeal — then the burden shifts back to the plaintiff to rebut that claim.[43]

If the monopolist's procompetitive justification stands unrebutted, the plaintiff must demonstrate that the anticompetitive harm of the conduct outweighs the procompetitive benefit. Finally, in considering whether the monopolist's conduct on balance harms competition and is therefore condemned as exclusionary under Section 2, courts focus on the effect of that conduct, not upon the intent behind it.[44]

D. Duty to Deal

In general, even a monopolist does not have a duty to deal with others. Unilateral refusals to deal are most likely to be problematic when they are used to "punish" others for doing business with a competitor.[45] The Patent Act expressly provides that refusing to license one's patented property or imposing conditions on licenses of such property is not itself unlawful in most circumstances.[46] There are, however, at least two instances where there is a duty to deal.

1. Essential Facilities Doctrine

A monopolist has a duty to deal with its rivals when it controls an essential facility — a resource necessary to its rivals' survival that they cannot feasibly duplicate. To prevail on an essential facilities claim, a plaintiff must establish that (1) access to the facility is essential to other firms' ability to compete; (2) the facility is controlled by a monopolist; (3) the plaintiff cannot practically or reasonably duplicate the facility; (4) the plaintiff has been denied the use of the facility; and (5) it is feasible to provide the facility to the plaintiff.[47]

The earliest application of the Essential Facilities Doctrine involved a group of railroads that used the same bridge over the Mississippi River to transport freight and passengers to St. Louis. Several of

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43. *Microsoft 2001*, 253 F.3d at 59 (citations omitted).

44. *But see* discussion of *Kodak II*, Part III.B *infra*.

45. *See, e.g.*, Consent Decree, § III.D, New York v. Microsoft Corp., 224 F. Supp. 2d 76, 266 (D.D.C. 2002) (prohibiting Microsoft from charging OEMs higher prices for Microsoft's Windows operating system if those OEMs installed Netscape Navigator and mandating that Microsoft provide uniform license terms to certain OEMs).

46. 35 U.S.C. § 271(d) (2002) ("No patent owner otherwise entitled to relief . . . shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having . . . refused to license or use any rights to the patent").

47. *See* MCI Communications Corp. v. Am. Tel. & Tel. Co., 708 F.2d 1081, 1132–33 (7th Cir. 1983), *cert. denied*, 440 U.S. 971 (1983).

the railroads bought the company that controlled the bridge and terminal at St. Louis, then refused to permit the other railroads to use the bridge even though it was the only bridge in the area. The U.S. Supreme Court held that the bridge constituted an essential facility that had to be made available, on reasonable terms, to all of the railroads.[48]

This approach was followed in the case against American Telephone and Telegraph ("AT&T"), which led to the breakup of the Bell Telephone System.[49] AT&T refused to give access to local telephone lines and related equipment to rivals hoping to enter the long-distance market, making it very difficult for competitors to offer long-distance service in competition with AT&T's high-price service.

In practice, courts are reluctant to characterize products or facilities as "essential," particularly when there is no horizontal element involving competitors.[50] The Essential Facilities Doctrine does not require a firm to share resources that are merely useful. A company need not share technology that would allow competitors to compete more effectively or resources that competitors could duplicate on their own. For example, the Seventh Circuit held that the New York Times News Service (the only service containing *New York Times* articles and crossword puzzles) was not an essential facility because there were at least three major competing supplemental news services.[51]

Similarly, the U.S. Court of Appeals for the Tenth Circuit held that membership in Visa USA's umbrella organization for issuers of Visa credit cards was not an essential facility to which Sears, the issuer of Discover Cards, had to be given access.[52] As a result, Visa could refuse to admit as members any financial institution that issued Discover or American Express cards. Unlike the pre-existing railroad facilities at issue in *Terminal Railroad*, Visa USA had spent years creating a brand and operating systems that Sears and American Express "not only had done nothing to create, but had chosen to compete against."[53] The bylaw restricting membership (1) prevented Sears and American Express from free-riding in a market in which there was no evidence of increased prices or reduced output; (2) did not bar Sears

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48. United States v. Terminal R.R. Ass'n of St. Louis, 224 U.S. 383 (1912) (*Terminal Railroad*).

49. United States v. Am. Tel. & Tel. Co., 552 F. Supp. 131 (D.D.C. 1982), *aff'd sub nom.* Maryland v. United States, 460 U.S. 1001 (1983). As with Microsoft, the ultimate result in the AT&T case was a consent decree rather than a decision on the merits. *See id.* at 135; *Microsoft 2002*, 231 F. Supp. 2d 144, 149 (D.D.C. 2002).

50. Thus, one could conceivably limit the holding in *Terminal Railroad* to cases where at least two direct competitors agree to exclude others from the use of a facility. *See* 2 JULIAN O. VON KALINOWSKI ET AL., ANTITRUST LAWS AND TRADE REGULATION § 25.04 n.113 (2d ed. 2002) and accompanying text.

51. Paddock Publ'ns, Inc. v. Chicago Tribune Co., 103 F.3d 42, 44 (7th Cir. 1996), *cert. denied*, 520 U.S. 1265 (1997) (stating that "a newspaper deprived of access to the *New York Times* crossword puzzles can find others, even if the *Times* has the best known one").

52. SCFC ILC, Inc. v. Visa USA, Inc., 36 F.3d 958 (10th Cir. 1994).

53. *Id.* at 970.

from access to the general-purpose credit card market; and (3) did not alter the character of the general-purpose credit market or change any present pattern of distribution.[54] Ultimately, the restrictions were struck down in a later antitrust action brought by the Department of Justice. However, this action was not based on an application of the Essential Facilities Doctrine but instead on a finding that the exclusionary rules restricted competition and harmed consumers by denying them innovative and varied products.[55]

2. Changes in Preexisting Business Practices

In certain instances courts have found violations of Section 2 when a firm with market power acted to change a pre-existing distribution pattern. In *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*,[56] the U.S. Supreme Court closely scrutinized an instance where a "monopolist elected to make an important change in a pattern of distribution that had originated in a competitive market and had persisted for several years."[57] The Court found this sudden refusal to deal exclusionary because the monopolist was not motivated by efficiency concerns and was willing to sacrifice short-run benefits and consumer goodwill in exchange for a perceived long-run impact on its "smaller rival."[58] Other courts have also found that to impose antitrust liability, a change in longstanding business practices must have occurred.[59]

E. Monopoly Leveraging

Ordinarily, Section 2 liability is restricted to monopolistic behavior within the specific market in which the firm has monopoly power. Through leveraging, however, a firm with monopoly power in one market can gain an advantage in a separate market. A firm clearly violates Section 2 when it uses that advantage to attain monopoly power in the second market. It is less clear whether a firm can legally use monopoly power in one market to gain a competitive advantage, short of actual monopolization, in another market.

In *Berkey Photo, Inc. v. Eastman Kodak Co*. ("*Berkey Photo*"), a film seller and processor challenged Kodak's refusal to provide the specifications for a new pocket-sized camera system requiring a new type of film and processing.[60] Berkey Photo accused Kodak of at-

54. *Id.* at 971–72.
55. United States v. Visa U.S.A., Inc., 163 F. Supp. 2d 322 (S.D.N.Y. 2001).
56. 472 U.S. 585 (1985).
57. *Id*. at 603.
58. *Id*. at 610.
59. *See, e.g.*, SMS Sys. Maint. Servs., Inc. v. Digital Equip. Corp., 11 F. Supp. 2d 166, 168 (D. Mass. 1998) (finding no liability without change in conduct).
60. 603 F.2d 263 (2d Cir. 1979), *cert. denied,* 444 U.S. 1093 (1980).

tempting to use its monopoly power in the film market to gain leverage in the photo-finishing equipment and services markets in violation of Section 2 of the Sherman Act. The Second Circuit rejected Berkey's claim and concluded that Kodak's invention resulted from its superior business skill, product, and foresight. Thus, Kodak's refusal to disclose the product innovation prior to the introduction of the new camera did not constitute willful maintenance of monopoly power in violation of the Sherman Act.[61]

The *Berkey Photo* court did, however, suggest that using monopoly power in one market to obtain a competitive advantage in another might violate Section 2.[62] Recent U.S. Supreme Court decisions tend to undercut this suggestion, but not decisively. More specifically, in *Spectrum Sports, Inc. v. McQuillan,* the Supreme Court held that the plaintiff in a Section 2 case involving unilateral conduct must prove a dangerous probability that the defendant's conduct will create or maintain monopoly power in a market.[63] That holding suggests leveraging that confers only a competitive advantage in a market cannot violate Section 2.

The U.S. Court of Appeals for the Ninth Circuit adopted this approach when it held that two airlines that had developed the two largest proprietary computerized airline reservation systems did not violate Section 2 merely because the systems gave them a competitive advantage in the air-transportation market by listing their flights first.[64] The court held that unless the monopolist uses its power in the first market to acquire and maintain a monopoly in the second market, or attempts to do so, there is no Section 2 violation. The plaintiffs conceded that the two airlines did not have a monopoly in the air-transportation market and that there was no dangerous probability that either defendant would acquire such a monopoly. Therefore, the court rejected their Section 2 claims.

On the other hand, language in *Kodak I* suggests that leveraging monopoly power in one market to create a competitive advantage in another market can be a Section 2 violation.[65] Therefore, it is not yet clear what position the Supreme Court would take on the legality of monopoly leveraging that confers only a competitive advantage.

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61. *Id.*
62. *Id.*
63. *See* 506 U.S. 447 (1993).
64. *See* Alaska Airlines, Inc. v. United Airlines, Inc., 948 F.2d 536 (9th Cir. 1991), *cert. denied*, 503 U.S. 977 (1992).
65. *See* 504 U.S. at 483; *see also* discussion in Part III *infra*.

F. Tying

Tying arrangements can be challenged under Section 1 of the Sherman Act[66] or, in cases involving commodities, under Section 3 of the Clayton Act.[67] In a "tying arrangement," the seller will sell product A (the "tying," or desired, product) to the customer only if the customer agrees to purchase product B (the "tied" product). A tying arrangement forces a buyer to purchase a product or service that it would not buy based solely on the product's or service's own merits.

There are four elements to a per se tying violation: (1) the tying and tied goods must be two separate products; (2) the defendant must have market power in the tying product market; (3) the defendant must afford consumers no choice but to purchase the tied product from it; and (4) the tying arrangement must foreclose a not insubstantial volume of commerce in the tied product.[68]

The primary concern behind the prohibition on tying "is that tying prevents goods from competing directly for consumer choice on their merits, i.e., being selected as a result of buyers' independent judgment."[69] Direct competition on the merits of the tied product is foreclosed when the tying product either is sold only in a bundle with the tied product or, though offered separately, is sold at a bundled price, so that the buyer pays substantially less for the bundled product than he or she would pay for the tying product and tied products if purchased separately (an "economic tie"). In either case, the consumer becomes less willing to buy a competitor's version of the tied product even if the competitor's version is superior in terms of quality and price.

As the Supreme Court explained in *Jefferson Parish,* the "answer to the question whether one or two products are involved [does not turn] on the functional relation between them."[70] The focus is instead on whether there is sufficient consumer demand for the tied product, separate from the tying product, to create a distinct product market in which it is efficient for competitors to offer only the tied product.[71] The Court concluded that a hospital that conditioned surgical care at its facility on the purchase of anesthesiological services from an affiliated medical group sold two separate products — anesthesia, the tied service, and surgical care, the tying service — even though patients rarely had surgery without an anesthetic or an anesthetic with-

66. 15 U.S.C. § 1 (2000).
67. 15 U.S.C. § 14 (2000).
68. *See, e.g.*, Indep. Ink, Inc. v. Trident, Inc., 210 F. Supp. 2d 1155, 1162 (C.D. Cal. 2002).
69. *Microsoft 2001*, 253 F.3d 52, 87 (D.C. Cir. 2001) (internal quotation marks omitted).
70. Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 19 (1984).
71. *See id*. at 21–22.

out surgery.[72] In other words, the mere fact that two items are complements, that one "is useless without the other,"[73] does not make them a single product for purposes of tying law.

The Court examined both the direct and the indirect evidence of consumer demand for the tied product separate from demand for the tying product. For direct evidence, the Court looked at whether, given a choice, consumers purchased the tied product from the maker of the tying product or from other firms.[74] The Court found that patients and surgeons often requested specific anesthesiologists not associated with the hospital where the surgery was to be performed.[75] For indirect evidence, the Court looked at the behavior of firms without market power in the tying product and found that only 27 percent of anesthesiologists had financial relationships with hospitals.[76]

As the Court of Appeals for the District of Columbia Circuit explained in its *Microsoft 2001* opinion, there is always, in the abstract, direct separate demand for products: If choice is available at zero cost, consumers will prefer choice to no choice.[77] But when the benefits of bundling outweigh the benefits of choice, most consumers will not choose to make independent purchases.

The consumer demand test is a "rough proxy for whether a tying arrangement may, on balance, be welfare-enhancing, and unsuited to per se condemnation."[78] Thus, unlike per se violations, a tying arrangement may be upheld if there is a business justification for it.[79] For example, courts have upheld the right of a franchisor to require franchisees to purchase certain supplies as part of the franchise agreement: Courts have required Baskin-Robbins franchisees to buy ice cream only through authorized Baskin-Robbins distribution channels[80] and required Domino's Pizza franchisees to purchase Domino's-approved supplies and ingredients.[81] According to the Court of Appeals for the Third Circuit, both

72. *Id.* at 22.
73. *Id.* at 19 n.30.
74. *Id.* at 22–23.
75. *Id.* at 22.
76. *Id.* at 22 n.36.
77. *Microsoft 2001*, 253 F.3d at 87.
78. *Id.*
79. *See, e.g.*, Mozart Co. v. Mercedes-Benz of N. Am., Inc., 833 F.2d 1342 (9th Cir. 1987), *cert. denied*, 488 U.S. 870 (1988) (Mercedes-Benz's policy of requiring its dealers to sell only factory-made parts was found to be justified by the assurance it provided to Mercedes that service on its automobiles, important in preserving a high-quality image, would not be performed with substandard parts.); *see also* discussion of Data Gen. Corp. v. Grumman Sys. Support *infra* Part III.E.
80. *See* Krehl v. Baskin-Robbins Ice Cream Co., 664 F.2d 1348 (9th Cir. 1982) (Baskin-Robbins trademark lacked sufficient independent existence apart from the branded ice cream products to justify a finding of an unlawful tying arrangement.).
81. *See* Queen City Pizza v. Domino's Pizza, 124 F.3d 430 (3d Cir. 1997) (Plaintiffs' acceptance of a franchise package with full knowledge that the franchise contract included purchase requirements and contractual restrictions could not give rise to antitrust liability

> courts and legal commentators have long recognized that franchise tying contracts are an essential and important aspect of the franchise form of business organization because they reduce agency costs and prevent franchisees from free riding . . . . We do not believe the antitrust laws were designed to erect a serious barrier to this form of business organization.[82]

As long as potential franchisees are aware of the contractual restrictions requiring the purchase of supplies only from approved sources, their "remedy, if any, is in contract, not under the antitrust laws."[83]

In *United States v. Microsoft Corp.* ("*Microsoft 1998*"),[84] the Court of Appeals for the District of Columbia Circuit considered whether bundling Internet Explorer with Windows 95 constituted an "integrated product" for purposes of a 1995 consent decree.[85] In the decree, Microsoft had agreed not to condition the sale of one product on the sale of another but had retained the right to develop "integrated products."[86] The court held that two products are "integrated" if providing them as a bundle offers the consumer functionalities not available if the products were purchased separately.[87] Because the Windows 95 and Internet Explorer bundle did offer distinct functionalities, the court concluded that they were integrated.[88] The court distinguished "bolting," which is technologically linking two products to make functions unavailable to purchasers of the separate products, from "integration," which creates a whole greater than the sum of its parts.[89] Although the court indicated in *Microsoft 1998* that it believed the separate product analysis would have been the same under the antitrust laws,[90] it backed away from this statement in *Microsoft 2001* and limited its prior holding to the language of the 1995 consent decree itself.[91]

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when a competitive market for franchises existed in which numerous alternative franchise opportunities were available. "If the contractual restrictions in . . . the general franchise agreement were viewed as overly burdensome or risky at the time they were proposed, plaintiffs could have purchased a different form of restaurant, or made some alternative investment."). *Id*. at 441.

82. *Id*. at 440–41.

83. *Id*. at 441.

84. United States v. Microsoft Corp., 147 F. 3d 935 (D.C. Cir. 1998) [hereinafter *Microsoft 1998*].

85. United States v. Microsoft Corp., 1995 U.S. Dist. LEXIS 20533, 8 (D.D.C. 1995).

86. *Id*.

87. *Microsoft 1998*, 147 F.3d 935.

88. *Id.*

89. *Id.* at 949.

90. *Id*. at 950.

91. *Microsoft 2001*, 253 F.3d 34, 92 (D.C. Cir. 2001); *see also* discussion *infra* Part IV.B.3.

G. Exclusive Dealing Arrangements

An exclusive dealing arrangement does not violate the antitrust laws unless its probable effect is to foreclose "competition . . . in a substantial share of the line of commerce affected."[92] Accordingly, unless a contract forecloses competition in a substantial part of the market for a substantial period of time, an exclusive dealing arrangement does not violate Section 1. For example, the Seventh Circuit upheld the New York Times News Service's practice of selling the reprint rights to its crossword puzzles and other features to only one newspaper in a particular geographic market in any given twelve-month period.[93] Here, the exclusive contract was of short duration and left other bidders free to obtain the rights by bidding the next year.

In upholding the exclusive contract, Judge Easterbrook wrote: "Competition-for-the-contract is a form of competition that antitrust laws protect rather than proscribe, and it is common."[94] Exclusive stories and features help newspapers differentiate themselves and thus better compete with each other, especially "if smaller newspapers are willing to bid with cash rather than legal talent."[95] Firms such as the New York Times News Service would, he argued, have less incentive to find and explicate the news if the law prevented them from deciding how to best market their intellectual property for maximum profit.[96] In addition, consumers may benefit from having different articles and features available in different newspapers.

III. ORIGINS OF THE INTELLECTUAL PROPERTY RIGHT REFUSAL TO DEAL QUANDARY

If an original manufacturer makes spare parts for its equipment generally available, enterprising equipment service firms ("Independent Service Organizations" or "ISOs") may create an ancillary market for servicing the equipment. Should an original manufacturer wish to control the service market for its equipment, it might cut off the supply of parts to the ISOs. These were the circumstances surrounding *Kodak I*,[97] a case that spawned several generations of ISO litigation.

92. Tampa Elec. Co. v. Nashville Coal Co., 365 U.S. 320, 327 (1961).
93. Paddock Publ'ns, Inc. v. Chicago Tribune Co., 103 F.3d 42 (7th Cir. 1996), *cert. denied* 520 U.S. 1265 (1997).
94. *Id.* at 45.
95. *Id.*
96. *Id*.
97. *Kodak I*, 504 U.S. 451 (1992).

A. Kodak I

Although best known for its photographic business, Kodak also manufactures and sells photocopiers and micrographic equipment.[98] Kodak also provides service and spare parts to its customers.[99] Kodak directly produces some of these parts, and it uses OEMs to produce the rest.[100] During the early 1980s, ISOs began repairing and servicing Kodak equipment at prices substantially lower than those charged by Kodak.[101] Some ISO customers purchased their own parts and hired the ISOs to provide the service, while others used the ISOs for both parts and service.[102] The ISOs either obtained parts from Kodak or the OEMs, or they scavenged used parts and refurbished them.[103]

In 1985, Kodak implemented a policy of selling replacement copier parts only to customers who purchased service from Kodak or who repaired their own machines.[104] In 1986, Kodak implemented a similar policy for its micrographic equipment products.[105] In both instances, Kodak also mandated that the OEMs follow a similar policy of not selling to ISOs.[106] When their sources of spare parts began to evaporate, many ISOs were forced out of business; those that managed to survive lost substantial revenue.[107]

A number of ISOs filed an antitrust suit in 1987 alleging that Kodak was in violation of Section 1 of the Sherman Act by tying the sale of copier service to the sale of parts.[108] The ISOs also alleged that Kodak violated Section 2 by unlawfully monopolizing and attempting to monopolize the sale of service for Kodak equipment.[109]

The District Court for the Northern District of California granted Kodak's motion for summary judgment.[110] In a split decision, the Court of Appeals for the Ninth Circuit reversed.[111] On certiorari,[112] the Supreme Court held that products manufactured by a single firm — in this case, Kodak copier parts — could constitute the relevant market.[113] This is most likely to be the case when the costs of

98. Kodak's micrographic equipment products include microfilm scanners, printers, viewers, and retrieval systems. *See id.* at 457 n.1.

99. *See id.* at 455.

100. *See id.* at 457.

101. *See id*.

102. *See id.* at 458.

103. *See id.* at 458 n.2.

104. *See id.* at 458.

105. *See Kodak II*, 125 F.3d 1195, 1201 (9th Cir. 1997).

106. *See Kodak I*, 504 U.S. at 458.

107. *See id*.

108. *Id.* at 459.

109. *Id*.

110. *Id*.

111. *Id.* at 460.

112. *Kodak I*, Inc., 501 U.S. 1216 (1991) (mem.).

113. *Kodak I*, 504 U.S. at 481–82.

switching to another supplier's product are very high and the lack of availability of the product from other sources is not known in advance.[114] Kodak did not have monopoly power in the copier market. Nonetheless, because the cost of replacing the copier was high, both absolutely and relative to the costs of parts and service, consumers were unlikely to discard their Kodak copier when offered replacement parts only as part of a service contract.[115]

Because of these high switching costs, the Court held that the relevant product market for the purposes of summary judgment was the market for Kodak copier replacement parts.[116] As sole provider of Kodak parts, Kodak clearly had monopoly power in that market. The Supreme Court concluded that Kodak's policy of selling replacement parts only to buyers of Kodak equipment who use Kodak repair service could be an illegal tie-in sale, as well as monopolization or an attempt to monopolize the service and parts markets in violation of Section 2, unless there was a valid business justification for the policy.[117] As guidance for remand, the Court stated:

> In the end, of course, Kodak's arguments may prove to be correct. It may be that its parts, service, and equipment are components of one unified market, or that the equipment market does discipline the aftermarkets so that all three are priced competitively overall, or that any anticompetitive effects of Kodak's behavior are outweighed by its competitive effects.[118]

Although the issue of whether Kodak's conduct was within the scope of the patent grant was not before the Court,[119] the Court included in its opinion a footnote that became quite important in later cases. Footnote 29 states, in part:

> [We have] held many times that power gained through some natural and legal advantage such as a patent, copyright, or business acumen can give rise to liability if a seller exploits his dominant position in one market to expand his empire into the next.[120]

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114. *Id*. at 473–74.
115. *Id*. at 476–77.
116. *Id*. at 473.
117. *Id*. at 483–84.
118. *Id*. at 486.
119. *See* Gleklen, *supra* note 2, at 6 n.21.
120. *Kodak I*, 504 U.S. at 479 n.29 (internal citations omitted).

Like *Aspen Skiing*,[121] *Kodak I* focused on the anticompetitive effects of a change in longstanding business practices.[122] *Kodak I* has been cited for the principle that a unilateral change in policy can constitute anticompetitive behavior.[123]

B. Kodak II

The case was remanded to the district court. At trial, Kodak asserted for the first time that a valid business justification for its anticompetitive conduct was its desire to protect copyrighted and patented parts.[124] While the Supreme Court had noted in *Kodak I* that a refusal to deal is justified if there are "legitimate competitive reasons for the refusal,"[125] the district court found that the proffered business justification was pretextual.[126] Kodak's parts manager "testified that patents 'did not cross [his] mind' at the time Kodak began the parts policy. Further, no distinction was made by Kodak between 'proprietary' parts covered by tooling or engineering clauses and patented or copyrighted products."[127] In addition, the district court noted that, although Kodak equipment "requires thousands of parts, . . . only 65 were patented. [Thus] this case concern[ed] a blanket refusal that included protected and unprotected products."[128]

Before closing arguments, the ISOs dropped their Section 1 tying claims, and thus only the Section 2 attempted monopolization and monopolization claims were submitted to the jury.[129] The jury

121. *See* Part II.D.2, *supra*.

122. *See generally* HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY §7.5 at 265–66 (1994) (recommending that *Aspen Skiing* and *Kodak I* be applied only to the cancellation of participation in a pre-existing joint venture, not to create a new obligation to deal where no arrangement had existed before); Daniel M. Wall, *Aftermarket Monopoly Five Years After Kodak,* 11 ANTITRUST 32, 37 (Summer 1997) ("As substantive law, [*Kodak I*'s] lasting significance may be to carry forward antitrust's peculiar animosity, usually associated with *Aspen Skiing,* towards changes in business policies."); Michael S. Jacobs, *Market Power Through Imperfect Information: The Staggering Implications of* Eastman Kodak Co. v. Image Technical Services *and a Modest Proposal for Limiting Them*, 52 MD. L. REV. 336, 360 n.129 (1993) (*Aspen Skiing* establishes that a monopolist may not change, without valid business justification, an established course of cooperative dealing with a rival).

123. *See, e.g.,* Queen City Pizza v. Domino's Pizza, 124 F.3d 430, 440 (3d Cir. 1997). ("[*Kodak I*] arose out of concerns about unilateral changes in Kodak's parts and repairs policies. . . . Because this change in policy was not forseen at the time of sale, buyers had no ability to calculate these higher costs at the time of purchase and incorporate them into their purchase decision."); *see also* discussion *supra* Part II.D.2.

124. *Kodak II*, 125 F.3d at 1212. Kodak held 220 U.S. patents "covering 65 parts for its [equipment], and all Kodak diagnostic software and service software [was] copyrighted." *Id.* at 1214.

125. *Kodak I*, 504 U.S. at 483 n.32.

126. *Kodak II*, 125 F.3d at 1219.

127. *Id*.

128. *Id*.

129. *Id*. at 1201.

awarded treble damages of $71.8 million, and the court imposed a ten-year injunction requiring Kodak to sell "all parts" to ISOs.[130]

Kodak's appeal returned the case to the Court of Appeals for the Ninth Circuit. While the court of appeals acknowledged that a desire to protect intellectual property rights may create a legitimate business justification for a refusal to deal, in *Kodak II* it found Kodak's defense to be pretextual.[131] The court held that "a monopolist's 'desire to exclude others from its [intellectual property] is a presumptively valid business justification for any immediate harm to consumers'"[132] resulting from that monopolist's unilateral refusal to license a patent or copyright or to sell its patented or copyrighted work. That presumption may be rebutted by evidence that the intellectual property protection was acquired unlawfully or that its use as a business justification was merely pretext.[133]

The court of appeals recognized the tension between antitrust law's concerns about monopoly as a threat to competition and the public policy underlying the copyright and patent laws granting limited monopolies as an incentive to innovate.[134] The court acknowledged that patent and copyright holders may refuse to sell or license their protected work, even if the result is to give them a monopoly on the patented or copyrighted products.[135] The court noted that it could "find no reported case in which a court has imposed antitrust liability for a unilateral refusal to sell or license a patent or copyright."[136]

However, the court of appeals cited *Kodak I* for the proposition that a monopolist who acquires a dominant position in one market through patents and copyrights may violate Section 2 if it exploits that dominant position to extend the lawful monopoly into a separate market.[137] According to the court of appeals, Kodak did not have a valid business justification for its policies and therefore violated Section 2 when it used its monopoly power in the Kodak copier parts market to obtain a monopoly in the Kodak copier service market.[138]

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130. *Id*. at 1200.

131. *Id*. at 1219. The trial court had instructed the jury that Kodak's intellectual property rights provided no defense if its actions otherwise constituted monopoly leveraging. *Id*. at 1214. Although the Court of Appeals for the Ninth Circuit held that this jury instruction was erroneous, it found this error to be harmless because Kodak's defense was pretextual. *Id*. at 1218–20.

132. *Id*. at 1218 (quoting Data Gen. Corp. v. Grumman Sys. Support, 36 F.3d 1147, 1197 (1st Cir. 1994)).

133. *Id.* at 1218.

134. *Id*. at 1215.

135. *Id*. at 1216.

136. *Id*.

137. *Id*. (citing *Kodak I*, 504 U.S. at 480 n.29).

138. *Id*. at 1220.

C. Xerox

During the same period as the Kodak litigation, Xerox also manufactured, sold, and provided service for photocopiers. In 1984, Xerox "established a policy of not selling parts unique to its series 10 copiers to [ISOs] unless they were also end-users of the copiers."[139] Xerox expanded the policy in 1987 "to include all new products as well as existing series 9 copiers."[140]

In contrast to the policy implemented by Kodak, however, Xerox end-users "remained free to supply the parts they purchased to any service provider, including ISOs," as long as the parts were ultimately installed in end-users' copiers.[141] Additionally, all ISOs could still purchase parts at the same prices with the same quantity discounts as any other end-user[142] as long as the parts were installed in their own machines.[143] Although Xerox limited the quantity of parts to any given end-user to the "quantity reasonably necessary to repair the [end-user's] equipment, [end-users] were free to resell the parts they purchased to ISOs."[144]

At issue, however, was a change in Xerox policy. In 1989, Xerox tightened its policy and "implemented an 'on-site end-user verification' procedure" to confirm that the parts ordered for end-users were actually installed in end-users' copiers.[145] A group of ISOs filed a class action lawsuit against Xerox, which Xerox settled in 1994.[146] Under the terms of the settlement, Xerox "agreed to suspend its restrictive parts policy for six and one-half years and to license its diagnostic software for four and one-half years."[147] CSU opted out of that settlement and filed its own antitrust lawsuit alleging that Xerox's refusal to sell its patented parts or to license its copyrighted manuals and software violated the Sherman Act.[148] Unlike the plaintiff in *Kodak I*, however, CSU did not make any allegations of tying.

Xerox responded by "arguing that its prior unilateral refusal to sell patented parts and to license patented and copyrighted diagnostic software (and its post-settlement pricing of such items) were a lawful unilateral exercise of its intellectual property rights and hence could

139. *Xerox*, 203 F.3d 1322, 1324 (Fed. Cir. 2000), *cert. denied*, 531 U.S. 1143 (2001).
140. *Id*.
141. Gleklen, *supra* note 2, at 2.
142. *See id*. The sole exception involved the U.S. Navy, which had a special contract whereby Xerox provided service to shipboard copiers when the vessels were in port. Navy technicians trained by Xerox serviced the copiers when at sea. *Id*. at 2 n.4.
143. *See Xerox*, 203 F.3d at 1324.
144. Gleklen, *supra* note 2, at 2.
145. *See Xerox*, 203 F.3d at 1324.
146. *Id*.
147. *Id*.
148. *See id*. at 1325.

not violate § 2 [of the Sherman Act]."[149] In an attempt to circumvent the issue of intent highlighted by the Ninth Circuit in *Kodak II*, "Xerox did *not* claim that its refusal to deal was in fact motivated by its intellectual property rights, but [instead] asserted that the existence of such IP rights immunized its conduct."[150] Xerox also argued that "CSU could not show it was actually injured by Xerox's refusal to sell [unpatented] parts."[151] Thus any injury was caused solely by "Xerox's lawful refusal to sell or license patented parts and copyrighted software."[152]

Xerox also counterclaimed for patent and copyright infringement "based on CSU's use of unlicensed diagnostic software and infringing parts purchased from third party parts vendors."[153] CSU "defended the infringement with a patent and copyright misuse defense based on the same conduct that underlay its antitrust claims — Xerox's prior refusal to sell or license and its current pricing of parts and software."[154]

As in *Kodak I*, the district court granted summary judgment and dismissed CSU's antitrust claims, "holding that if a patent or copyright is lawfully acquired, [the] unilateral refusal to sell or license . . . is not unlawful exclusionary conduct under the antitrust laws, even if [such a refusal] impacts competition in more than one market."[155] The appeal was taken by the Federal Circuit because, at least since *Nobelpharma*,[156] antitrust issues involving the scope of the patent grant were viewed as being within the Federal Circuit's exclusive jurisdiction.[157]

149. Gleklen, *supra* note 2, at 3.

150. *Id*.

151. *Id*.

152. *Xerox*, 203 F.3d at 1324.

153. Gleklen, *supra* note 2, at 3.

154. *Id*.

155. *Xerox*, 203 F.3d at 1324.

156. Nobelpharma AB v. Implant Innovations, Inc., 141 F.3d 1059 (Fed. Cir. 1998); *see also* Midwest Indus., Inc. v. Karavan Trailers, Inc., 175 F.3d 1356, 1360 (Fed. Cir. 1999) (en banc in relevant part) ("Pro-Mold and Nobelpharma make clear that our responsibility as the tribunal having sole appellate responsibility for the development of patent law requires that we do more than simply apply our law to questions of substantive patent law. In order to fulfill our obligation of promoting uniformity in the field of patent law, it is equally important to apply our construction of patent law to the questions whether and to what extent patent law preempts or conflicts with other causes of action.").

157. *See Xerox*, 203 F.3d at 1325. However, after *Holmes Group v. Vornado Air Circulation Sys.,* 535 U.S. 826 (2002), it is unclear whether such a case would automatically continue to fall within the Federal Circuit's exclusive jurisdiction. In *Holmes*, the Supreme Court held that the well-pleaded complaint rule requires that for a case to arise under patent law, the plaintiff's complaint must establish either that federal patent law itself created the cause of action or that "the plaintiff's right to relief necessarily depends on resolution of a substantial question of federal patent law." *Id* at 1893, quoting Christianson v. Colt Indus. Operating Corp., 486 U.S. 800, 809 (1988). If cases involving antitrust immunity for activities within the scope of the patent grant are to remain the exclusive jurisdiction of Federal Circuit, it will likely have to be under this second rationale.

In its brief to the Federal Circuit, Xerox argued that its "patents claim inventions that [made] *servicing* copiers and printers easier and more effective."[158] For example, "as noted in Xerox's brief in the Federal Circuit, Xerox's '797 pressure roll patent notes that invention provides the advantage of 'less down-time required for replacing pressure rolls,' i.e., the need for less frequent copier and printer service."[159] Additionally, "Xerox's '256 fuser roll patent states that the object of this invention is to provide a new fuser roll with a longer lasting coating, a goal that is desirable because it 'is expensive to . . . install fuser rolls.'"[160] Xerox's '006 patent for a "document handler belt . . . disclosed a belt with 'good document handling performance without requiring the intermittent or periodic adjustment required' by servicemen for proper operation of the prior art belt."[161]

The Federal Circuit held that Xerox could refuse to sell its patented replacement parts to independent service providers such as CSU.[162] In doing so, the Federal Circuit expressly declined to follow the Ninth Circuit's position in *Kodak II* that determination of the defendant's subjective motivation is warranted to determine whether the defendant's actions really were motivated by a desire to exploit its intellectual property.

The Federal Circuit acknowledged that intellectual property rights do not confer a privilege to violate antitrust laws, and the D.C. Circuit cited *Xerox* with approval for this proposition in *Microsoft 2001*.[163] But unlike the D.C. Circuit, the Federal Circuit went on to state that as a general rule, the antitrust laws do not prevent the owner of intellectual property rights from excluding others from use of its patented property.[164] A patent owner who sues or countersues to exclude others from making, using, or selling the claimed invention is exempt from antitrust laws unless (1) the "patent was obtained through knowing and willful fraud" on the Patent and Trademark Office, or (2) the patent infringement suit or counter-claim is a "mere sham" to disguise an attempt "to interfere directly with the business relationships of a competitor."[165] Neither of these two exceptions was at issue in the case.[166]

158. Gleklen, *supra* note 2, at 13, n.51 and accompanying text.

159. *Id*. at 13, n.51.

160. *Id*. Note also that the non-stick coating used for fuser rolls also has application in non-stick cookware. "The invention also has utility in the field of coating metal substrates, for example in the production of cooking utensils and other surfaces used in the culinary arts . . . to produce surfaces which provide release." U.S. Patent No. 4,196,256 (issued Apr. 1, 1980).

161. Gleklen, *supra* note 2, at 13, n.51.

162. *Xerox*, 203 F.3d at 1328.

163. *Microsoft 2001*, 253 F.3d 34, 63 (D.C. Cir. 2001).

164. *Xerox*, 203 F.3d 1325 (citing Intergraph Corp. v. Intel Corp., 195 F.3d 1346, 1362 (Fed. Cir. 1999)).

165. *Id*. at 1326.

166. *Id*. Of course, these exceptions only apply to activity that is within the scope of the patent. *Id*. at 1327–28.

The Federal Circuit rejected CSU's reliance on the Supreme Court's suggestion in *Kodak I* that a seller cannot exploit its dominant position in one market to expand into another market.[167] The Federal Circuit characterized *Kodak I* as a tying case[168] and suggested that when "[p]roperly viewed within the framework of a tying case, [footnote 29 from *Kodak I*] can be interpreted as restating the undisputed premise that the patent holder cannot use his statutory right to refuse to sell patented parts to gain a monopoly in a market beyond the scope of the patent."[169] Unlike the plaintiff in *Kodak I*, CSU had made no claims that Xerox had tied the sale of its patented parts to its unpatented products or services.[170]

The Federal Circuit also declined to inquire into the subjective motivation behind Xerox's refusal to sell or license its patented works.[171] Instead, the court reiterated that unless the patent infringement claims are objectively baseless, "an antitrust defendant's subjective motivation is immaterial."[172] As long as the antitrust defendant did not engage in illegal tying, Patent and Trademark Office fraud, or sham litigation, it could enforce its statutory intellectual property rights without violating the antitrust laws.[173]

With respect to Xerox's refusal to license its copyrighted manuals and software, the court cited Supreme Court precedent emphasizing that property rights "granted by copyright law cannot be used with impunity to extend power into the marketplace beyond what Congress intended."[174] As the Ninth Circuit had done in *Kodak II*, the Federal Circuit held that "an author's desire to exclude others from use of its copyrighted work is a presumptively valid business justification for any immediate harm to consumers" resulting from the exclusionary conduct.[175] But unlike the Ninth Circuit, the Federal Circuit declined to examine Xerox's subjective motivation for relying on the copyright laws to refuse to sell its copyrighted materials.[176] As it had held with respect to patented property, the Federal Circuit held that the antitrust plaintiff can rebut the presumption of validity only by proving that the antitrust defendant had obtained the copyrights by unlawful means or

167. *See id*. at 1327.

168. *See id*. ("Notably, [*Kodak I*] was a tying case when it came before the Supreme Court, and no patents had been asserted in defense of the antitrust claims against Kodak.").

169. *Id*.

170. *See id*. ("[T]here are no claims in this case of illegally tying the sale of Xerox's patented parts to unpatented products. Therefore, the issue was not resolved by the *Kodak* language cited by CSU.").

171. *See id*.

172. *Id*. (quoting Nobelpharma AB v. Implant Innovations, Inc., 141 F.3d 1059, 1072 (Fed. Cir. 1998) (internal quotation marks omitted)).

173. *Id.* at 1327.

174. *Id*. at 1328 (citing United States v. Loew's, Inc., 371 U.S. 38, 47–48 (1962)).

175. *Id*. at 1329 (quoting Data Gen. Corp. v. Grumman Sys. Support Corp., 36 F.3d 1147, 1187 (1st Cir. 1994) (internal quotation marks omitted)).

176. *Id*.

used them to gain monopoly power beyond the statutory copyright granted by Congress.[177]

D. Microsoft[178]

While this debate over unilateral refusals to deal was raging, Microsoft Corporation[179] was embroiled in defending itself against sweeping allegations by the U.S. Justice Department and nineteen states that Microsoft had maintained a monopoly in the market for Intel-compatible personal computer ("PC") operating systems through several means, including illegally tying Internet Explorer to Windows 95 and Windows 98 in violation of Section 1.[180] The plaintiffs also alleged that Microsoft entered into unlawful exclusive dealing arrangements in violation of Section 1 and unlawfully attempted monopolization of the internet browser market in violation of Section 2.[181] The states brought similar claims under analogous state laws.[182] The case arose, in large part, out of "Microsoft's varied efforts to unseat Netscape Navigator as the preeminent internet browser."[183] Less than a year and a half after the Federal Circuit decision in *Xerox*, the D.C. Circuit rendered its unanimous decision in the Microsoft antitrust case.[184]

The district court had determined that Microsoft had (1) maintained a monopoly in the market for Intel-compatible PC operating systems in violation of Section 2 of the Sherman Act; (2) attempted to gain a monopoly in the market for internet browsers in violation of

177. *Id*.

178. Portions of this discussion are drawn from Bagley, *supra* note 12.

179. Microsoft is the largest computer software company in the world and creator of the Windows operating system used on more than 95 percent of all Intel-compatible personal computers. *See* United States v. Microsoft Corp., 87 F. Supp. 2d 30, 36 (D.D.C. 2000) [hereinafter *Microsoft 2000*].

180. *Microsoft 2001*, 253 F.3d 34, 47 (D.C. Cir. 2001). Other allegations included (1) entering into restrictive licensing agreements with OEMs, such as Hewlett Packard, that prohibited OEMs from (a) replacing desktop icons, folders, and Start folder entries; (b) modifying the Windows start-up sequence; (c) launching Windows with any interface other than the Windows desktop; or (d) adding any icons, in size or shape, different from those provided by Microsoft; (2) including Internet Access Providers, such as America Online, in the Windows Online Service sign-up folder in exchange for their using Internet Explorer as the default browser; (3) giving preferential treatment to Internet Content Providers and Independent Software Vendors in exchange for their using Internet Explorer as the default browser; (4) entering into an exclusive dealing agreement with Apple Computer; and (5) undermining Sun Microsystem's Java middleware by (a) creating an incompatible Java Virtual Machine; (b) inducing Independent Software Vendors to write only for the Microsoft version; (c) deceiving programmers; and (d) coercing Intel to stop supporting Java. *See generally id.* at 34. This case was discussed in Part II.F, *supra*.

181. *Id.* at 47.

182. *Id*.

183. *Id.* at 46.

184. *Microsoft 2001* was decided on June 28, 2001. *Xerox* was decided on February 17, 2000.

Section 2; and (3) illegally tied two purportedly separate products, Windows and Internet Explorer, in violation of Section 1.[185] The district court also found that the same facts that established liability under the Sherman Act mandated findings of liability under analogous state law antitrust provisions.[186] To remedy the Sherman Act violations, the district court issued a final judgment requiring Microsoft to submit a proposed plan of divestiture, with the company to be split into an operating systems business and an applications business.[187]

On appeal, the D.C. Circuit acknowledged that it was deciding this case

> against a backdrop of significant debate amongst academics and practitioners over the extent to which "old economy" § 2 monopolization doctrines should apply to firms competing in dynamic technological markets characterized by network effects. In markets characterized by network effects, one product or standard tends towards dominance, because "the utility that a user derives from consumption of the good increases with the number of other agents consuming the good." For example, "an individual consumer's demand to use (and hence her benefit from) the telephone network . . . increases with the number of other users on the network whom she can call or from whom she can receive calls." Once a product or standard achieves wide acceptance, it becomes more or less entrenched. Competition in such industries is "for the field" rather than "within the field."
>
> In technologically dynamic markets, however, such entrenchment may be temporary, because innovation may alter the field altogether. Rapid technological change leads to markets in which "firms compete through innovation for temporary market dominance, from which they may be displaced by the next wave of product advancements."[188]

185. *Microsoft 2000*, 87 F. Supp. 2d 30, 35 (D.D.C. 2000).

186. *Id*.

187. *Id.* at 59.

188. *Microsoft 2001*, 253 F.3d 34, 49 (D.C. Cir. 2001) (citations omitted); *see also* Bruce Abramson, *From Investor Fantasy to Regulatory Nightmare: Bad Network Economics and the Internet's Inevitable Monopolists*, 16 HARV. J.L. & TECH. 159, 173 (2002) ("The first and best-known defining characteristic of a network industry is that the value of a network grows with its size. This phenomenon is known as 'positive feedback' (or alternatively, increasing returns to scale)." The phenomenon of positive feedback "follows standard microeconomic principles describing consumer choice. The rational choice for a consumer . . .

In particular, the court noted that "there is no consensus among commentators on the question of whether, and to what extent, current monopolization doctrine should be amended to account for competition in technologically dynamic markets characterized by network effects."[189]

The court also pointed out the practical difficulty of crafting remedies in cases involving violations of the antitrust laws in technologically dynamic markets.[190] Although the court deemed it "noteworthy" that a case of this magnitude and complexity could proceed from the filing of complaints to an appellate decision in a "mere three years," the court noted that more than six years had passed since Microsoft engaged in the first alleged anticompetitive conduct, a period of time that "seems like an eternity in the computer industry."[191] As a result:

> Conduct remedies may be unavailing in such cases, because innovation to a large degree has already rendered the anticompetitive conduct obsolete (although by no means harmless). And broader structural remedies present their own set of problems, including how a court goes about restoring competition to a dramatically changed, and constantly changing, marketplace.[192]

Even though the forward-looking remedies available in government enforcement actions involving technologically dynamic markets "appear[ed] limited," the court indicated that enforcement actions would still play an "important role" in "defining the contours of the antitrust laws so that law-abiding firms will have a clear sense of what is permissible and what is not." [193] The court went on to state that "the threat of private damage actions will remain to deter those firms inclined to test the limits of the law."[194]

The D.C. Circuit (1) upheld the district court's determination that Microsoft's exclusive dealing contracts with Internet Access Providers did not violate Section 1;[195] (2) affirmed in part and reversed in part the district court's judgment that Microsoft violated Section 2 by

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is to select the option that will connect her to the most valuable of the competing networks. . . . [Because of the higher utility associated with joining a larger network,] the consumer's rational decision to join it will make the largest network larger — and thus correspondingly more valuable to the next consumer who considers joining.").

189. *Id.* at 50.

190. *Id*.

191. *See id.* at 48–49.

192. *Id.* at 49.

193. *Id.*

194. *Id.*

195. *Id*. at 70 ("Plaintiffs did not cross-appeal this holding.").

employing anticompetitive means to maintain a monopoly in the operating system market;[196] (3) reversed the district court's determination that Microsoft violated Section 2 by illegally attempting to monopolize the internet browser market;[197] (4) remanded the finding that Microsoft violated Section 1 by unlawfully tying its browser to its operating system;[198] and (5) vacated the remedial order calling for divestiture because (a) the district court's final judgment rested on a number of liability determinations that did not survive appellate review; (b) the district court failed to hold an evidentiary hearing to address remedy-specific factual disputes; and (c) the trial judge had "engaged in impermissible ex parte contacts by holding secret interviews with members of the media and made numerous offensive comments about Microsoft officials in public statements outside of the courtroom, giving rise to an appearance of partiality."[199]

Although the D.C. Circuit's opinion covered a wide range of alleged transgressions, and at times exonerated Microsoft, we focus on the aspects of the opinion addressing the OEM licensing restrictions and the alleged tying of Windows and Internet Explorer.[200]

The D.C. Circuit upheld the district court's finding of monopoly power in a relevant market, defined as Intel-compatible PC operating systems, rejecting Microsoft's attempt to define the market more broadly.[201] Microsoft had a greater than 95 percent share of that market and its market position was protected by a substantial entry barrier, namely the "applications barrier to entry."[202] That barrier stemmed from the fact that "(1) most consumers of software prefer operating systems for which a large number of applications have already been written; and (2) most developers prefer to write for operating systems that already have a substantial consumer base."[203]

The appeals court also held that "with the exception of the one restriction prohibiting automatically launched alternative interfaces, all

196. *Id*. at 46.
197. *Id*.
198. *Id*.
199. *Id*.
200. The district court held that Microsoft's exclusive dealing contracts with Internet Access Providers (such as AOL) did not violate Section 1, because they did not completely exclude Netscape from reaching any potential user by some means of distribution, such as downloading Netscape's browser software from the Internet or distributing free software disks. The plaintiffs did not appeal this ruling. The government also had alleged that Microsoft's pricing of Internet Explorer was predatory. By pricing Internet Explorer below cost (indeed, by even paying people to take it), Microsoft was able to preserve its stream of monopoly profits on Windows and thereby more than recoup its investment in below-cost pricing on Internet Explorer. The district court did not assign liability for predatory pricing. Because the plaintiff did not assert this theory on appeal, the court of appeals did not consider it. *Id*. at 68.
201. *Id.* at 52.
202. *Id.* at 55.
203. *Id*.

the OEM license restrictions at issue represent uses of Microsoft's market power to protect its monopoly, unredeemed by any legitimate justification" in violation of Section 2.[204] Microsoft had attempted to defend its OEM license restrictions as lawful conditions on the rights it gave others to use its intellectual property. The court rejected Microsoft's "bold and incorrect" position that if intellectual property rights have been lawfully acquired then their subsequent exercise cannot give rise to antitrust liability, stating that this assertion was "no more correct than the proposition that use of one's personal property, such as a baseball bat, cannot give rise to tort liability."[205] As noted earlier, the D.C. Circuit cited with approval language from the Federal Circuit's opinion in *Xerox*: "Intellectual property rights do not confer a privilege to violate the antitrust laws."[206]

The D.C. Circuit did, however, accept Microsoft's argument that even a copyright holder with monopoly power may legally limit a licensee's ability to engage in "significant and deleterious alterations of a copyrighted work."[207] Even so, the court concluded that the only license restriction necessary to prevent a substantial alteration of Microsoft's copyrighted work was a restriction on OEMs' ability to automatically launch a substitute user interface upon completion of the boot process.[208] The court agreed "that a shell that automatically prevents the Windows desktop from ever being seen by the user is a drastic alteration of Microsoft's copyrighted work, and outweighs the marginal anticompetitive effect of prohibiting the OEMs from substituting a different interface automatically upon completion of the initial boot process."[209] None of the other elements of the ruling regarding product design specifically implicated intellectual property rights.[210]

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204. *Id.* at 64.

205. *Id*. at 62.

206. *Id.* at 63 (quoting *Xerox*, 203 F.3d 1322, 1325 (Fed. Cir. 2000)). Note, however, that the D.C. Circuit declined to include the subsequent statement from the *Xerox* opinion ("But it is also correct that the antitrust laws do not negate the patentee's right to exclude others from patent property"). Perhaps this is because the intellectual property at issue was based on copyright rather than a patent. Whether such a divergent outcome should depend on whether the asset in question is a copyright or a patent is discussed in Part IV *infra*.

207. *Microsoft 2001*, 253 F.3d 34, 63 (D.C. Cir. 2001) (quoting Gilliam v. ABC, 538 F.2d 14, 21 (2d Cir. 1976)).

208. *Id.* at 63. The court found that the primary justifications put forward by Microsoft "border[ed] upon the frivolous." *Id*.

209. *Id*.

210. The appeals court upheld the district court's conclusion that Microsoft's exclusion of Internet Explorer from the Add/Remove Programs utility and its commingling of browser and operating system code constituted unjustified exclusionary conduct. The appeals court reversed, however, the finding that using Windows to override the user's choice of a default browser in certain circumstances constituted unjustified exclusionary conduct, after concluding that the plaintiffs had failed to rebut Microsoft's proffered "valid technical reasons" for the override. *Id*. at 67.

Turning to the claims of attempted monopolization, the appeals court reversed the finding that Microsoft illegally attempted to monopolize the Internet browser market, because the plaintiffs had failed to show that the browser market could be monopolized, "i.e., that a hypothetical monopolist in that market could enjoy market power."[211] In particular, the plaintiffs failed "(1) to define the relevant market, and (2) to demonstrate that substantial barriers to entry protect that market."[212]

In perhaps the most groundbreaking part of the opinion, the D.C. Circuit deviated from the Supreme Court's holding that tying is per se illegal if there are separate products and the defendant has market power in the tying product.[213] Instead, the D.C. Circuit ruled that "the rule of reason, rather than per se analysis, should govern the legality of tying arrangements involving platform software products."[214] Notwithstanding its ruling in *Microsoft 1998* that, at least for purposes of construing the 1995 consent decree, Windows and Internet Explorer were not separate products,[215] the *Microsoft 2001* court determined

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The appeals court also upheld the finding that Microsoft's exclusive dealing contracts with the Internet Access Providers, such as AOL, were unjustified exclusionary devices in violation of Section 2. *Id*. at 71. The appeals court reversed, however, the district court's finding that the dealings with the Internet Content Providers violated Section 2, because there was insufficient evidence to support a finding that Microsoft's promotional restrictions actually had a substantial, deleterious impact on Navigator's usage share. The appeals court upheld, however, the finding that the exclusive dealing arrangements with the independent service vendors and Apple Computer constituted unjustified exclusionary conduct in violation of Section 2. *Id*. at 74.

As for Java, the appeals court held that the development of the incompatible Java Virtual Machine did not violate Section 2, reasoning that "a monopolist does not violate the antitrust laws simply by developing a product that is incompatible with those of its rivals. In order to violate the antitrust laws, the incompatible product must have an anticompetitive effect that outweighs any procompetitive justification for the design." *Id*. at 75. Because the Microsoft Java Virtual Machine allowed applications to run more swiftly on Windows, Microsoft did not violate the antitrust laws when it developed and promoted its own Java Virtual Machine. On the other hand, the court upheld the finding that the provisions requiring use of Microsoft's Java Virtual Machine as the default violated Section 2 because Microsoft had offered no procompetitive justification. *Id*. Similarly, the court upheld the finding that Microsoft's campaign to deceive developers and its threats to Intel to dissuade Intel from supporting Java both violated Section 2. *Id*. at 76–78.

211. *Id.* at 81.

212. *Id*.

213. *Id*. at 85 (quoting *Kodak I*, 504 U.S. 451, 461–62 (1992)); *see also* Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 17 (1984). ("[T]he Court has held that [if] market power exists and is being used to restrain competition in a separate market, *per se* condemnation [of tying is] appropriate.").

214. *Microsoft 2001*, 253 F.3d at 84.

215. The court conceded that "we believed our interpretation of the term 'integrated product' [in *Microsoft 1998*] was consistent with the test for separate products under tying law," but pointed out that the *Microsoft 1998* opinion had made it clear that the "antitrust question is of course distinct" and that the conclusion that Internet Explorer and Windows 95 were integrated was subject to reexamination on a more complete record. *Id*. at 92 (internal quotation marks omitted). The *Microsoft 2001* opinion did, however, indicate that any disclaimer in *Microsoft 1998* of judicial competence to evaluate product design did not conform to prevailing antitrust doctrine. *Id*.

that Windows and Internet Explorer were, in fact, two separate products.[216] Nonetheless the court concluded that "applying per se analysis to such an amalgamation creates undue risk of error and of deterring welfare-enhancing innovation."[217] Accordingly, it remanded the case to the district court for its evaluation of whether, under the Rule of Reason, the procompetitive advantages of integration outweighed the costs to consumers of impairing consumers' ability to make direct price/quality tradeoffs in the tied market.[218]

In short, it seems fair to say that the D.C. Circuit abandoned in *Microsoft 2001* its suggestion in *Microsoft 1998* that integrated products are not separate products for purposes of assigning tying liability. The court also demonstrated its willingness and competence to dig into the technology of operating systems and other software to determine which products are separate. At the same time, the *Microsoft 2001* decision could lead to the same end result. In particular, asking whether the procompetitive advantages of integration outweigh the anticompetitive restrictions on consumer choice may turn out to be similar to asking whether there are functionalities or advantages available from the bundle that are not available if the two products are bought separately but used together.

Ultimately, the D.C. Circuit partially affirmed the district court's antitrust violation findings but vacated the remedy of divestiture.[219] On remand, the district court was required to fashion a remedy appropriately tailored to the revised liability findings.[220] On November 1, 2002, the court entered the final consent decree.[221]

E. Other Relevant Cases

Discussion of several additional patent and copyright cases is necessary to demonstrate the full range of decisions in this area. As above, the courts struggle in these cases to clearly and consistently define the extent of power that intellectual property law gives patent and copyright holders in the face of antitrust law. Also as above, each court approaches this dilemma uniquely, in both interpretation and application of intellectual property and antitrust law, and thus courts come to distinct and sometimes conflicting conclusions. This, of course, only adds to the complexity in this field, and increases the need for a simpler, comprehensive solution.

216. *Id*. at 89.
217. *Id*. at 89–90.
218. *Id*. at 94.
219. *Id*. at 105.
220. *Id*.
221. *Microsoft 2002*, 231 F. Supp. 2d 144 (D.D.C. 2002).

1. Other Patent Cases

a. Intergraph v. Intel

Intergraph Corp. v. Intel Corp.[222] involved Intel's threat to discontinue providing advanced technical information to a microprocessor customer that had sued Intel for patent infringement. Intel manufactured high performance microprocessors that were sold to a variety of OEMs. One such OEM, Intergraph, made workstations for computer-aided graphics. From 1987 to 1993, Intergraph based its workstations on its own microprocessor technology called "Clipper," but in 1993 Intergraph changed over to Intel microprocessors.[223] In 1994, Intel designated Intergraph a "strategic customer" and began to provide special benefits such as early access to technology under non-disclosure agreements.[224]

In 1996, Intergraph determined that certain OEMs were infringing several of its Clipper patents through their use of Intel microprocessors.[225] Intel attempted to negotiate access to the Clipper technology, but unsuccessfully. Intergraph sued Intel for patent infringement in 1997.[226] Intel responded by threatening to cut off the special strategic customer benefits, and Intergraph sought to enjoin Intel from doing so. The district court characterized Intel's refusal to deal as denying access to an essential facility[227] and found that as such this refusal violated Section 2 of the Sherman Act.[228]

In an opinion issued two years before *Xerox*, the Federal Circuit reversed, holding that unilateral conduct permitted under patent and copyright laws is not subject to antitrust scrutiny.[229] The court also held that "Intel's conduct with respect to Intergraph does not constitute the offense of monopolization or the threat thereof in any market relevant to competition with Intergraph."[230] Thus, absent direct competition between Intel and Intergraph, there could be no essential facility for antitrust purposes.[231]

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222. 195 F.3d 1346 (Fed. Cir. 1999).
223. *See id*. at 1350.
224. *See id*.
225. *See id*.
226. *Id*.
227. Intergraph Corp. v. Intel Corp., 3 F. Supp. 2d 1255, 1278 (N.D. Ala. 1998).
228. *Id*.
229. *Intergraph*, 195 F.3d at 1354–55 ("Unilateral conduct that may adversely affect another's business situation, but is not intended to monopolize that business, does not violate the Sherman Act.").
230. *Id*. at 1356.
231. *Id*. at 1357–58 ("The notion that withholding of technical information and samples of pre-release chips violates the Sherman Act, based on essential facility jurisprudence, is an unwarranted extension of precedent and can not be supported on the premises presented. The district court erred in holding that Intel's superior microprocessor product and Inter-

Although Intel prevailed before the Federal Circuit, a concurrent FTC action ultimately forced Intel to acquiesce.[232] Per the consent decree, Intel agreed to continue providing advanced technical information for ten years to microprocessor customers even if one of those customers initiated an infringement action against Intel.[233]

b. SCM Corp. v. Xerox Corp.

Another relevant case involving antitrust liability for actions within the scope of the patent grant is *SCM Corp. v. Xerox Corp.*,[234] which the Ninth Circuit cited several times in *Kodak II*.[235] As part of its strategy to develop the plain-paper copier, "Xerox had more than 1,000 patents, mostly related to xerography and plain-paper copying."[236] Xerox only used 35 to 40 percent of those patents in actual Xerox products.[237] In essence, Xerox had accumulated most of those patents to create a defensive thicket around its photocopier technology.[238] Having made substantial R&D investments, Xerox "felt that it wanted to exploit its copier technology on its own."[239] "Therefore, throughout the 1960s and into the early 1970s, Xerox refused to grant licenses for plain paper copying under its patents [but] did grant licenses under its patents for other fields, including coated paper copiers."[240] SCM had obtained a license for coated paper copying patents but then attempted unsuccessfully to obtain a license for plain paper copying patents.[241]

SCM filed an antitrust claim against Xerox alleging that "Xerox's acquisition of its patents and subsequent exercise of the exclusionary power in them violated the antitrust laws and injured SCM."[242] SCM asserted that Xerox acquired most of its patents to block others from making plain paper copiers, rather than for protecting improved Xerox

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graph's dependency thereon converted Intel's special customer benefits into an 'essential facility' under the Sherman Act.").

232. *See* In the Matter of Intel Corp., F.T.C. Docket No. 9288, http://www.ftc.gov/os/1998/9806/intelfin.cmp.htm. The complaint alleged not only that Intel's actions regarding Intergraph were illegal, but also that Intel was engaging in similar conduct against Digital and Compaq.

233. *See* Agreement Containing Consent Order, In the Matter of Intel Corp. (filed Mar. 17, 1999), http://www.ftc.gov/os/1999/9903/d09288intelagreement.htm.

234. 645 F.2d 1195 (2d Cir. 1981).

235. *Kodak II*, 125 F.3d 1195, 1214, 1216, 1219.

236. Gerald Sobel, *The Antitrust Interface with Patents and Innovation: Acquisition of Patents, Improvement Patents and Grant-Backs, Non-Use, Fraud on the Patent Office, Development of New Products and Joint Research*, 53 ANTITRUST L.J. 681, 685 (1984).

237. *See id*.

238. *See* Kurt M. Saunders, *Patent Nonuse and the Role of Public Interest as a Deterrent to Technology Suppression*, 15 HARV. J.L. & TECH 389, 393 (2002).

239. Sobel, *supra* note 236, at 685.

240. *Id*.

241. *See* SCM v. Xerox, 645 F.2d at 1200.

242. *Id*. at 1203.

products and processes, and that Xerox's failure to use the majority of its patents "reflected this intent."[243] Although "Xerox's patents were so numerous and complex that they created a 'thicket' that prevented [SCM from] designing around the patents,"[244] the Second Circuit ultimately held "that where a patent has been lawfully acquired, subsequent conduct permissible under the patent laws cannot trigger any liability under the antitrust laws."[245]

2. Other Copyright Cases

a. Sega Enterprises v. Accolade

In the first case, *Sega Enterprises v. Accolade Inc.*,[246] Sega manufactured video game consoles and cartridges for home entertainment use.[247] Accolade was a competitor in the video game cartridge market but did not manufacture its own game consoles.[248] Sega had developed a system to protect its trademark rights — the Licensed Trademark Security System ("TMSS") — by which the Sega console read a game cartridge for specific computer code.[249] If the game cartridge included the computer code, the console would display the message "PRODUCED BY OR UNDER LICENSE FROM SEGA."[250] If the TMSS code was not found, the game cartridge would not operate in the console.[251]

Using reverse engineering, Accolade analyzed Sega's game cartridges to determine which code was necessary for the cartridges to be compatible with the Sega console, and then used that code to develop their own game cartridges for play on the console.[252] Because Accolade also copied the TMSS code, however, Accolade's cartridges also prompted the message that Accolade games are "PRODUCED BY OR UNDER LICENSE FROM SEGA," even though Accolade had no license from Sega to produce compatible game cartridges.[253]

Sega filed suit alleging copyright infringement, among other things, and sought to enjoin Accolade.[254] The district court granted the injunction,[255] but the Ninth Circuit reversed,[256] applying the doctrine

243. Sobel, *supra* note 236, at 685.
244. *Id*. (quoting SCM v. Xerox, 645 F.2d at 1203).
245. SCM v. Xerox, 645 F.2d at 1206.
246. 977 F.2d 1510 (9th Cir. 1992).
247. *Id*. at 1514.
248. *Id*.
249. *Id*. at 1515.
250. *Id*.
251. *Id*. at 1515–1516.
252. *Id*. at 1516.
253. *Id*.
254. *Id*.
255. *Id*.
256. *Id*. at 1532.

of fair use.[257] The Ninth Circuit held that where reverse engineering "is the only way to gain access to the ideas and functional elements embodied in a copyrighted computer program and where there is a legitimate reason for seeking such access, disassembly is a fair use of the copyrighted work, as a matter of law."[258]

b. MAI Systems v. Peak Computer

In the second case, *MAI Systems Corp. v. Peak Computer Inc.*,[259] MAI was a computer manufacturer that designed software to run on its computers.[260] MAI also provided service for its customers' computers and the software necessary to operate its computers, including the operating system.[261] Peak Computer maintained computer systems for its clients, including more than one hundred clients that used MAI computers.[262] Peak competed with MAI in servicing MAI equipment, which comprised between 50 percent and 70 percent of Peak's business.[263] As part of its service program, Peak technicians would often "operate the computer and its operating system software in order to service the machine."[264] In 1992, MAI sued Peak for copyright infringement, among other things, alleging that every time a Peak technician operated the equipment or loaded a diagnostic program, an infringing copy of the software was created in the computer's RAM.[265] The Ninth Circuit held that "the loading of copyrighted software into RAM creates a 'copy' of that software in violation of the Copyright Act,"[266] and that such copying by Peak was unauthorized,[267] even if for purely diagnostic purposes as part of servicing or repairing the customer's equipment.[268]

c. Data General v. Grumman

The last case we discuss in this section is *Data General Corp. v. Grumman Corp.*,[269] which the courts in both *Kodak II*[270] and *Xerox*[271]

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257. *See* discussion of fair use *supra* note 20 and accompanying text.
258. *Sega Enterprises*, 977 F.2d at 1527–28 (citing the disassembly of the object code reverse engineering technique).
259. 991 F.2d 511 (9th Cir. 1993).
260. *See id.* at 513.
261. *See id*.
262. *See id*.
263. *See id*.
264. *See id*.
265. *Id*. at 517.
266. *Id*. at 518.
267. *Id*. at 517.
268. *See id*. at 518, n. 4 and accompanying text.
269. 36 F.3d 1147 (1st Cir. 1994).
270. *Kodak II*, 125 F.3d at 1211, 1215–16, 1218–19.
271. *Xerox*, 203 F.3d 1322, 1327–28 (Fed. Cir. 2000).

cited.[272] Data General and Grumman competed in the service market for computers manufactured by Data General.[273] Although Data General had "no more than a 5 percent share of the highly competitive 'primary market' for mini-computers, [it controlled] approximately 90 percent of the 'aftermarket' for service of [Data General] computers."[274] Grumman was the leading ISO[275] with approximately 3 percent of the available service business.[276]

The first ISOs appeared in the early 1970s,[277] and from 1976 until some point in the mid-1980s, Data General fostered the growth of ISOs with relatively liberal policies concerning ISO access to service tools.[278] Data General sold or licensed diagnostics directly to ISOs, and allowed them to use diagnostics that had been sold or licensed to Data General equipment owners and to obtain spare parts manufactured by Data General or other manufacturers.[279] Data General "allowed (or at least tolerated) requests by [ISOs for Data General's] repair depot to fix malfunctioning circuit boards, the heart of a computer's central processing unit ("CPU")."[280] Some ISOs could even purchase engineering change order kits, classroom training, schematics, and other documentation from Data General.[281] Grumman argued "that [Data General's] liberal policies were beneficial to [Data General] because increased capacity (and perhaps competition) in the service aftermarket would be a selling point for [Data General] equipment."[282]

Much as Kodak and Xerox changed their policies to maximize revenue from their service business, so too did Data General. In the mid-1980s, Data General began to refuse to provide many service tools directly to ISOs, allow them to use the Data General repair depot, permit ISOs to attend training classes, or to purchase schematics, documentation, change order kits, and certain spare parts.[283] Finally, Data General "severely restricted the licensing of ADEX, a new software diagnostic for its MV computers. The MV series was at once [Data General's] most advanced computer hardware and an increas-

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272. Hovenkamp, Janis, and Lemley also suggest that *Data General* should be read together with *Kodak I*, *II* and *Xerox*. *See* IP AND ANTITRUST, *supra* note 1, § 13.3d.
273. *See Data General*, 36 F.3d at 1152.
274. *Id*.
275. The term used in the *Data General* opinion is "TPM" (Third Party Maintainer), but we will use ISO for the sake of consistency with *Xerox* and both *Kodak* opinions.
276. *See Data General*, 36 F.3d at 1152.
277. *See id*. at 1153.
278. *See id*. at 1154.
279. *See id*.
280. *See id*.
281. *See id*.
282. *See id*.
283. *See id*.

ingly important source of sales and service revenue"[284] for Data General.

While the ISOs could obtain parts, service tools, and most required software from other sources,[285] access to ADEX was a different matter. Data General refused to license ADEX to its own service customers or to the customers of ISOs; it was only available to Data General technicians or those equipment owners that performed their own service.[286] ISOs were also unable to obtain ADEX equivalents from sources other than Data General.[287] ISOs such as Grumman found various ways to circumvent Data General's ADEX restrictions. Some former Data General employees absconded with copies of ADEX when they left Data General and joined Grumman.[288] In addition, although Data General required service customers to return copies of ADEX to Data General should they cancel their service agreement, few customers did so.[289] Grumman technicians could also use and duplicate copies of ADEX left behind by Data General field engineers. Grumman was thus able to acquire copies of ADEX in order to maintain libraries of diagnostics, so that Grumman technicians could more easily provide service to customers with Data General's MV computers.[290]

Data General sued Grumman for copyright infringement in 1998.[291] Grumman asserted that Data General could not maintain a copyright infringement action because Data General "had used its ADEX copyrights to violate Sections 1 and 2 of the Sherman Antitrust Act."[292] The district court granted Data General's motions for summary judgment with respect to Grumman's tying claim under Section 1 as well as its monopolization claim under Section 2, and the First Circuit affirmed both rulings.[293] The First Circuit held that Grumman failed to prove that ADEX and Data General support were two distinct products, and thus, as a matter of law, no tying arrangement could exist.[294] As to the Section 2 claims, the First Circuit held that "while exclusionary conduct can include a monopolist's unilateral refusal to license a copyright, an author's desire to exclude others from use of

284. *See id*.
285. *See id*.
286. *See id*.
287. *See id*. ("At least two other diagnostics designed to service Data General's MV computers may have become available as early as 1989, but no fully functional substitute was available . . . [as of] 1992.").
288. *Id*.
289. *Id*. at 1154–55.
290. *Id*. at 1155.
291. *Id*.
292. *Id*. at 1156.
293. *Id*. at 1178. The district court also disagreed with Grumman's characterization of ADEX as an essential facility. Data Gen. Corp. v. Grumman Sys. Support Corp., 761 F. Supp. 185, 192 (D. Mass. 1991).
294. *Data General*, 36 F.3d at 1181.

its copyrighted work is a presumptively valid business justification for any immediate harm to consumers."[295]

IV. MAKING SENSE OF *KODAK*, *XEROX*, AND *MICROSOFT*

The situation that confronts the intellectual property marketplace is one fraught with confusion and conflicting directives. The Ninth Circuit's approach in *Kodak II*[296] seems deeply flawed.[297] By making liability turn on the defendant's subjective intent, the Ninth Circuit would make it difficult or impossible for defendants to have the case decided on a motion for summary judgment. It basically rewards the company that has best educated its managers on the need to constantly repeat in their e-mails and elsewhere that the reason why they are not dealing with others is because of their desire to exploit their intellectual property rights.[298] Another company engaging in essentially the same conduct would be treated differently not because its conduct was more or less harmful to competition, but because it had done a poorer job schooling its managers. Instead, the test should be whether the practice in fact harms competition.

The D.C. Circuit's position in *Microsoft 2001*[299] seems equally problematic. Following the court's baseball bat analogy, it would seem that if a fan ran onto the field and approached a player warming up inside the on-deck circle from behind, the player should not be liable if the fan were struck by the bat during the normal course of swinging the bat.[300] Yet if one followed the logic of *Microsoft 2001*, liability would have to be imposed no matter how legitimate the bat swinging may have been. Had the D.C. Circuit correctly followed the logic of the Federal Circuit's *Intergraph*[301] and *Xerox*[302] opinions, it would have focused on whether Microsoft's activity exceeded the scope of its grant of intellectual property protection. While its baseball bat analogy carries rhetorical heft, absent an examination of the con-

295. *Id.* at 1187.

296. *Kodak I*, 125 F.3d 1195 (9th Cir. 1997), *cert. denied*, 523 U.S. 1094 (1998).

297. *See, e.g.*, Michael A. Carrier, *Unraveling the Patent-Antitrust Paradox*, 150 U. PA. L. REV. 761, 794 (2002) ("There are manifest difficulties in centering analysis on the defendant's intent.").

298. *See id.* ("[T]here will always be the concern that documentation of beneficent intent will be made with an eye toward future litigation.").

299. *Microsoft 2001*, 253 F.3d 34, 62 (D.C. Cir. 2001).

300. Responding to Microsoft's assertion that if intellectual property rights have been lawfully acquired then their subsequent exercise cannot give rise to antitrust liability, the court stated "[t]hat is no more correct than the proposition that use of one's personal property, such as a baseball bat, cannot give rise to tort liability." *Microsoft 2001*, 253 F.3d 34, 62 (D.C. Cir. 2001).

301. Intergraph Corp v. Intel Corp, 195 F.3d 1346 (Fed. Cir. 1999).

302. *Xerox*, 203 F.3d 1322 (Fed. Cir. 2000).

text of batsmanship, the analogy ends up like a corked bat that has shattered at the plate, exposed as hollow for all the world to see.[303]

While *Microsoft 2001* dealt only with copyrighted products, *Kodak II* dealt with both patented and copyrighted products. Since *Nobelpharma*,[304] which was decided less than one year after *Kodak II*, however, all cases where patent law conflicts with other causes of action, including antitrust, have been handled by the Federal Circuit.[305]

In *Xerox*, the Federal Circuit explicitly rejected the intent test of *Kodak II*, so for patents, at least, one could argue that *Kodak II* is no longer valid law. Instead, *Xerox* holds that any activity within the scope of the patent grant is fair game. We see no reason why the ability to refuse to license intellectual property should turn on whether the asset is protected by copyright or by patent. Such an approach would be particularly troublesome as applied to software code and other products eligible for both forms of protection.

While we are most troubled by the treatment of intellectual property in *Kodak II* and *Microsoft 2001*, we also feel that *Xerox* goes too far in that it allows Xerox to change its policies retroactively. Had the Federal Circuit limited *Xerox* to the implementation of new policies for new products rather than also allowing retroactive policy changes for existing products, the resulting opinion would have avoided the anticompetitive problems that the Supreme Court identified in *Aspen Skiing*,[306] and which courts have admonished against in franchise tying cases.[307]

While granting absolute immunity within the scope of the patent grant allows for quick disposal of cases at summary judgment, the subjective intent test in *Kodak II* will almost always have to be decided by a jury. An objective test that can be handled at summary judgment is desirable, but the *Xerox* position goes too far. Additionally, what is needed is an objective test that is based on market realities rather than "[l]egal presumptions that rest on formalistic distinctions."[308] We propose such a test in the following section.

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303. To cork a baseball bat, drill a hole 12 to 14 inches down into the barrel and fill it with ground cork. "A heavy bat is thus able to be swung with the quickness of a bat several ounces lighter, which can cause a ball to carry much farther than it otherwise would have." Kevin Paul Dupont, *Cheating in Other Sports?* BOSTON GLOBE, Apr. 17, 1998, at C7.

304. Nobelpharma AB v. Implant Innovations, Inc., 141 F.3d 1059 (Fed. Cir. 1998)

305. *See id*. *But see* discussion of *Holmes Group v. Vornado Air Circulation Sys.,* 535 U.S. 826 (2002), discussed in *supra* note 157.

306. Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585 (1985). *See supra* text accompanying notes 56–58.

307. *See supra* notes 80–83 and accompanying text.

308. *Kodak I*, 504 U.S. 451, 466 (1992).

A. Our Proposal

Our proposal involves a refinement of the Federal Circuit's position that any activity within the scope of the intellectual property grant is permissible. We accomplish that refinement by incorporating a variation on the concept of adverse possession for the intellectual property space. Just as adverse possession has potential benefits in the arena of real property, similar benefits could be obtained by applying a variant of this principle to intellectual property. Of course, analogizing a real property concept in the intellectual property space is never a perfect fit. The nature of intellectual property is such that almost any real property analogy will require modification. Unlike real property, intellectual property is an intangible good and is therefore non-rivalrous.[309] Intellectual property is also non-excludable,[310] and thus difficult to monitor and control in terms of dissemination and use without additional legal protections.[311]

Alternative analogies may also exist that are preferable on certain dimensions yet are also inadequate on other dimensions. An obvious alternative to the adverse possession analogy would be an easement for intellectual property, but for reasons discussed in Part V, we reject the easement analogy and proceed with the adverse possession analogy.

Given that intellectual property owners should be rightfully entitled to claim the full scope of their property grant, we agree with the Federal Circuit's position that they should be able to exclude other firms from developing ancillary markets within the scope of the original intellectual property grant, via unilateral refusals to license their intellectual property. If, however, other firms are not excluded and the ancillary markets develop and provide a service that is separately demanded by consumers, then we propose that after a sufficient period of time, adverse possession would preclude the original intellectual property owners from excluding the other firms from the ancillary market based on existing products. New markets based on new products would not be affected, however, unless (1) the intellectual prop-

309. A non-rivalrous good is one that can be used simultaneously by more than one person without diminishing the utility of its use. *See* Paul Romer, *Endogenous Technological Change*, 98 J. POL. ECON. S71, S74 (Oct. 1990) (defining a non-rivalrous good as having "the property that its use by one firm or person in no way limits its use by another"); *see also* Lawrence Lessig, *The Law of the Horse: What Cyberlaw Might Teach*, 113 HARV. L. REV. 501, 526 (1999) (discussing the non-rivalrous nature of intangible property).

310. *See* Romer at S74 ("A good is excludable if the owner can prevent others from using it.").

311. *Id.* ("A good such as the code for a computer program can be made excludable by means of a legal system that prohibits copying"). Even with additional legal protections, detection of unauthorized use or dissemination may prove difficult. To enhance excludability, Romer also suggests developing a "means of encryption [or other] copy protection schemes." *Id.*

erty owner repeats the same process of failing to claim the entire scope of the intellectual property grant relative to potential ancillary markets, or (2) the intellectual property owner has market power and the underlying product is one that is characterized by network effects. In this latter (and probably rare) situation, we propose an application of the Rule of Reason if the underlying product is found to be an essential facility and the holder of the essential facility competes in the ancillary market.[312] Before we explore the specific application of our proposal, however, it is instructive to review some of the justifications for adverse possession as applied to real property.

1. Relevant Justifications for Adverse Possession

The most relevant economic justification for adverse possession is that "adverse possessors who have occupied a piece of land for a long period may have developed considerable reliance interests that would be lost if the true owner could reclaim title at any time."[313] Judge Posner characterized the rationale as follows:

> Over time, a person becomes attached to property that he regards as his own, and the deprivation of the property would be wrenching. Over the same time, a person loses attachment to property that he regards as no longer his own, and the restoration of the property would cause only moderate pleasure. This is a point about diminishing marginal utility of income. The adverse possessor would experience the deprivation of the property as a diminution of his wealth; the original owner would experience the restoration of the property as an increase in his wealth. If they have the same wealth, then probably their combined utility will be greater if the adverse possessor is allowed to keep the property.[314]

Other scholars have characterized this justification as moral in nature.[315] Professor Singer described the situation this way:

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312. *See supra* Part II.D.A for discussion of the justifications for the Essential Facilities Doctrine.

313. Thomas J. Miceli & C. F. Sirmans, *An Economic Theory of Adverse Possession*, 15 INT'L REV. L. & ECON. 161 (1995); *see also* Jeffrey M. Netter et al., *An Economic Analysis of Adverse Possession Statutes*, 6 INT. REV. L. & ECON. 217 (1986).

314. RICHARD POSNER, ECONOMIC ANALYSIS OF LAW §3.11, at 89–90 (5th ed. 1998).

315. *See, e.g.*, Joseph William Singer, *The Reliance Interest in Property*, 40 STAN. L. REV. 611, 667 (1988) ("It is morally wrong for the true owner to allow a relationship of dependence to be established and then to cut off the dependent party."); *see also* Thomas W. Merrill, *Property Rules, Liability Rules, and Adverse Possession*, 79 NW. U. L. REV. 1122 (1984) (discussing adverse possession in moral terms).

> The true owner and the adverse possessor [develop] a kind of relationship. The possessor comes to expect and may have come to rely on the fact that the true owner will not interfere with the possessor's use of the property. If the adverse possessor were to be ousted from the property, she would experience a loss. The adverse possessor's interests grow stronger over time as she develops legitimate expectations that the true owner will continue to allow her to control the property. In other words, she may rely on continued access, both in the sense of relying on use of the land itself and relying on the relationship that makes such access possible.
>
> . . . The possessor has come to expect continued access to the property, and the true owner has fed those expectations by her actions (or her failure to act). It is morally wrong for the true owner to allow a relationship of dependence to be established and then to cut off the dependent party.
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> . . . After the true owner has acquiesced in the adverse use for a long enough period of time, . . . [t]he rules protect the more vulnerable party to the relationship by shifting ownership from the true owner to the adverse possessor.[316]

This situation seems quite analogous to the fact patterns in both *Kodak* and *Xerox*. If we view the maximum scope of the patent grant as a piece of property, the servicing of products based on the patent grant is initially within the metes and bounds of the property grant. Kodak and Xerox initially left part of that space vacant, and the ISOs subsequently occupied that space.[317]

Given that antitrust is designed to enhance consumer welfare by protecting competition rather than competitors,[318] a reliance interest by the ISOs alone would be insufficient.[319] Kodak and Xerox custom-

316. Singer, *supra* note 315, at 666–67.

317. At first glance, the patent law doctrine of implied license might appear to be a valid alternative, but the specific requirements for its application is not present in the situations discussed here. An implied license can be imposed in situations where the patent owner has acquiesced in a situation of infringement. *See* Wang Laboratories v. Mitsubishi Electronics, 103 F.3d 1571, 1580 (Fed. Cir. 1997). Under our proposal, however, infringement never gives rise to adverse possession, and thus this doctrine is inapplicable

318. *See, e.g.*, Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc., 429 U.S. 477, 488 (1977); Brown Shoe Co. v. United States, 370 U.S. 294, 320 (1962).

319. A social welfare analysis, however, that is agnostic as to the intent of the antitrust regime would also examine the investment of the ISOs in terms of such costs, separate and

ers also have a reliance interest, however. When they were purchasing their equipment, the existence of ISO service may have been factored into their purchase decision. It is the reliance interest of the consumers that provides the justification for the application of adverse possession in the intellectual property space.[320] As a result, the right to limit the IP owner's right to exclude rests with the existing customers and is not specific to any one ISO. Once that customer reliance interest is created, any ISO, regardless of when it entered the market, can assert it on behalf of the existing customers.

A different economic justification for adverse possession "is that it tends to prevent valuable resources from being left idle for long periods of time by specifying procedures for a productive user to take title from an unproductive user."[321] This Lockean notion of highest and best use of the land,[322] which rewards "the useful laborer at the expense of the sluggard,"[323] would suggest that if the ISOs are able to deliver a superior level of service, they should be allowed to continue to do so if Kodak and Xerox did not exclude them from the service market from the beginning.

Our proposal of adverse possession for intellectual property only applies if the adverse possession occurs in a marketplace in which the adverse possessor is already established. If the ISO service were inferior such that consumers did not demand it, then under the separate products test of *Jefferson Parish*,[324] there would be no separate market and thus no anticompetitive conduct. In *Jefferson Parish*, the Court stated that "no tying arrangement can exist unless there is a sufficient demand for the purchase of [service A] separate from [product B] to identify a distinct product market in which it is efficient to offer [ser-

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apart from any customer based reliance interest. Allowing ISOs to invest heavily in product specific training or equipment and then forcing them to abandon those investments would seem deleterious to overall economic welfare. We revisit this issue of sunk investments later in this Part. *See infra* note 352 and accompanying text.

320. We might also make a similar argument under a theory of detrimental reliance or breach of the implied covenant of good faith and fair dealing from a contract law perspective. However, the adverse possession concept seems to be less of a conceptual stretch. Neither Kodak nor Xerox ever explicitly promised that ISO service would be available to their customers, nor did they agree to supply parts to ISOs in perpetuity. We are also unaware of an instance where a reliance interest for one party (the customer) was sustainable based on a separate reliance interest of a third party (the ISOs). Thus, we do not pursue detrimental reliance under contract law any further.

321. ROBERT COOTER & THOMAS ULEN, LAW AND ECONOMICS 156 (1988); *see also* Merrill, *supra* note 315, at 1130 (describing adverse possession as "a social policy favoring 'active' owners of property, who develop or exploit their land, rather than 'passive' owners").

322. *See generally* John Locke, *Second Treatise of Government* § 25, in TWO TREATISES OF GOVERNMENT 336 (P. Laslett rev. ed. 1963) (1690).

323. Carol M. Rose, *Possession as the Origin of Property*, 52 U. CHI. L. REV. 73, 79 (1985).

324. Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 21 (1984) ("a tying arrangement cannot exist unless two separate product markets have been linked").

vice A] separately from [product B]."[325] Thus, adverse possession for a portion of the intellectual property space can be justified based on the reliance interest of the customers of the patented products as well as the increased customer welfare of allowing the competitive service to continue to be offered.[326]

Adverse possession for real property is far from instantaneous and is difficult to accomplish. To prevail on a claim for adverse possession, the adverse possessor must demonstrate (a) actual possession that is (b) open and notorious, (c) exclusive, (d) continuous and (e) adverse or hostile (f) for the statutory period.[327] Any application of adverse possession to intellectual property should be similarly constrained; however, the nature of intellectual property necessitates some modification to the doctrine. Actual possession would be established by one or more firms occupying the ancillary market within the scope of the patent grant. This modification would also satisfy the open and notorious requirement, given that the ISO-type firms would be purchasing or licensing with the full knowledge of the intellectual property owner.

Exclusive occupation would differ from the real property concept because of inherent differences between real property and intellectual property. It is physically impossible for a sufficiently small piece of real property to be simultaneously occupied by more than one person, yet those same two people could simultaneously make use of the same piece of intellectual property.[328] In the intellectual property arena, the determining factor would be whether the intellectual property owner (or an exclusive licensee) occupies the ancillary market exclusively. In essence, nonexclusivity on the part of the intellectual property owner would be the required criteria for a successful claim for adverse possession, as long as the additional occupiers were non-infringing. We should make it clear that infringement of the intellectual property owner's IP rights would never qualify for adverse possession.

While the concept of continuity would be similar, the requirement that the possession be adverse or hostile would be different. Given that the intellectual property owner is the source for patented spare parts, one could argue that the occupation of the ancillary market is permissive. Since permissive use of real property generally defeats a claim for adverse possession,[329] we would therefore propose that the

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325. *Id*. at 21–22.

326. There are of course other justifications for adverse possession. A particularly interesting justification based on modern experimental psychology and the theory of loss aversion can be found in Jeffrey Evans Stake, *The Uneasy Case for Adverse Possession*, 89 GEO. L.J. 2419 (2001).

327. JOSEPH WILLIAM SINGER, INTRODUCTION TO PROPERTY LAW 137 (2001).

328. This distinction highlights the difference between the rivalrous nature of real property and the non-rivalrous nature of intellectual property.

329. *See* SINGER, *supra* note 315, at 142. *But see* Peters v. Juneau-Douglas Girl Scout Council, 519 P.2d 826 (Alaska 1974) (possession by Alaskan Tlingit Indian elder was held

occupation of the ancillary market must only be competitive to qualify as adverse or hostile. If the intellectual property owner chooses not to compete, the potential for competition would also be sufficient for a claim of adverse possession. Again, while infringement might be viewed as an adverse or hostile activity, we do not suggest that such infringement ever qualify for adverse possession.

In terms of hostile or adverse occupation, our proposal for the intellectual property space clearly differs from traditional adverse possession for real property. Our construction, however, closely follows Singer's reinterpretation of adverse possession, which suggests that the doctrine requires only longstanding use rather than requiring nonpermissive longstanding use.[330] We propose that as long as the use is non-infringing, the adverse possession doctrine for the intellectual property space should not necessarily distinguish between longstanding permissive use and longstanding nonpermissive use.

The last requirement for a successful adverse possession claim is that the occupation be for a sufficiently long period of time. Given that intellectual property grants are limited in duration, it would seem to follow that its required timeframe would be shorter than the required timeframe for real property. Although we do not suggest what the appropriate period of time should be for intellectual property, the *Data General*[331] case discussed earlier might provide a basis for determining a sufficient period.[332] As Hovenkamp, Janis, and Lemley point out, the First Circuit held that because "Data General's old policy of permitting ISO competition had never led to a competitive market, . . . the withdrawal of its support could not be proof of anticompetitive effect."[333] Thus, a sufficient period of time might be stated in terms of market competitiveness rather than in months or years, which would also be consistent with our requirement that the occupation be competitive to qualify as hostile or adverse. Alternatively, the sufficient time period could be stated in terms of the time necessary to make sufficient investment to compete in the ancillary market. Such a determination would take into account such factors as the level of investment required or the asset specificity of such investment.

In addition to a theoretical justification for our proposal, cases from several circuits provide additional support for the idea that a

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to be sufficiently hostile under an objective test of hostility to support adverse possession even though plaintiff's possession of the property was in fact permissive).

330. *See* Singer, *supra* note 315, at 666–67. Note that Singer does not suggest that the distinction between permission and nonpermission is irrelevant. He posits instead that such a distinction should be a factor in determining whether the reliance interest should be protected or not. *See id*.

331. Data Gen. Corp v. Grumman Corp., 761 F. Supp. 185 (D. Mass. 1991).

332. *See supra* Part III.E.3.

333. IP AND ANTITRUST, *supra* note 1, at 13–26.

change in longstanding business practices should be the threshold question from an antitrust standpoint. Both the First[334] and the Seventh[335] Circuits have limited *Kodak I*[336] to situations in which the manufacturer's policy was not generally known. The situation before the Sixth Circuit in *PSI Repair Services. v. Honeywell, Inc.*,[337] seems the closest to both the situations in *Kodak* and *Xerox*, and the court's reasoning seems quite consistent with our proposal.

Honeywell manufactured and sold industrial control equipment that contained and depended heavily on printed circuit boards.[338] Honeywell did not repair the boards when they failed, but instead replaced them and charged the customer for the replacement, "so long as the customer return[ed] the defective board."[339] Although companies such as PSI offered circuit-board repair services to owners of industrial control equipment, "Honeywell has a stated policy of not selling its components to anyone."[340] Thus, there was no ISO market for Honeywell equipment, because "Honeywell's own actions . . . essentially limited the existence of a separate market for components."[341] In distinguishing *Kodak I*, the Sixth Circuit found merit in Honeywell's contention "that that while Kodak changed its service and parts policy to include the tie after many Kodak customers purchased their equipment, Honeywell has consistently maintained its policy of board replacement."[342] In essence, "the *Kodak* [*I*] Court's finding of a material issue of fact on the definition of the relevant market resulted from Kodak's change in policy."[343] *Kodak I* did not explicitly state the extent that the change in Kodak's policy "affected the Court's analysis. Nonetheless, it suggested that the outcome might have been different had Kodak presented evidence that its restrictive

334. *See* Lee v. Life Ins. Co. of N. Am., 23 F.3d 14, 20 (1st Cir. 1994), *cert. denied*, 513 U.S. 964 (1994) ("The timing of the 'lock in' at issue in *Kodak* was central to the Supreme Court's decision . . . . Had previous customers known, at the time they bought their Kodak copiers, that Kodak would implement its restrictive parts-servicing policy, Kodak's 'market power,' i.e., its leverage to induce customers to purchase Kodak servicing, could only have been as significant as its [market power] in the copier market, which was stipulated to be inconsequential or nonexistent.").

335. *See* Digital Equip. Corp. v. Uniq Digital Techs., Inc., 73 F.3d 756, 763 (7th Cir. 1996) ("The Court did not doubt in *Kodak* that if spare parts had been bundled with Kodak's copiers from the outset, or Kodak had informed customers about its policies before they bought its machines, purchasers could have shopped around for competitive life-cycle prices. The material dispute that called for a trial was whether the change in policy enabled Kodak to extract supra-competitive prices from customers who had already purchased its machines.").

336. *Kodak I*, 504 U.S. 451 (1992).

337. 104 F.3d 811 (6th Cir. 1997).

338. *See id*. at 813.

339. *Id*.

340. *Id*.

341. *Id*. at 816.

342. *Id*. at 819.

343. *Id*.

parts policy was consistently maintained and generally known."[344] The Sixth Circuit stated "that the change in policy in *Kodak* [*I*] was the crucial factor in the Court's decision. By changing its policy after its customers were 'locked in,' Kodak took advantage of the fact that its customers lacked the information to anticipate this change."[345] Thus, "it was Kodak's own actions that increased its customers' information costs. In our view, this was the evil condemned by the Court and the reason for the Court's extensive discussion of information costs."[346]

One of the Sixth Circuit's main holdings, which strongly supports our proposal, declared that

> [i]n light of our reading of *Jefferson Parish* and *Kodak*, we thus hold that an antitrust plaintiff cannot succeed on a *Kodak*-type theory when the defendant has not changed its policy after locking-in some of its customers, and the defendant has been otherwise forthcoming about its pricing structure and service policies.[347]

Because there were "no allegations that Honeywell changed its parts-restrictive policy in order to lock-in customers, nor has PSI al-

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344. *Id*. The Sixth Circuit noted the majority's response to Justice Scalia's dissenting position that "but for Kodak's change in policy, the Court would be faced with a traditional tie between copiers and aftermarket service." The majority responded:

> The dissent disagrees [with our conclusion in this case] based on its hypothetical case of a tie between equipment and service. "The only thing lacking" to bring this case within the hypothetical case, states the dissent, "is concrete evidence that the restrictive parts policy was . . . generally known." But the dissent's "only thing lacking" is the crucial thing lacking — evidence. Whether a tie between parts and service should be treated identically to a tie between equipment and service, as the dissent and Kodak argue, depends on whether the equipment market prevents the exertion of market power in the parts market. Far from being "anomalous," requiring Kodak to provide evidence on this factual question is completely consistent with our prior precedent.

Kodak I, 504 U.S. at 477 n.24 (internal citations omitted). This passage can be read to imply that had Kodak presented undisputed evidence that it never changed its policy and that its policy was generally known, the Court would have considered Kodak copiers as the tying product and service and parts combined as the product being tied. *Id*.; *see also* 10 PHILLIP E. AREEDA, ET AL., ANTITRUST LAW 150 (1996) ("The majority [in *Kodak*] apparently agreed with [the dissent] when it emphasized the absence of evidence that Kodak's policy was generally known."); *id*. at 157 ("The *Kodak* majority indicated that it would assess the defendant's power in the interbrand machine market (where it had none) were it 'generally known' to machine buyers that the defendant supplied unique repair parts only in connection with its service, notwithstanding ignorance of lifecycle prices.").

345. *PSI Repair Servs.*, 104 F.3d at 820.

346. *Id*.

347. *Id*.

leged that Honeywell's policy was not generally known,"[348] PSI could not "establish that Honeywell's practices in the parts and services markets [had] contributed to Honeywell's power in the market for industrial control equipment,"[349] and thus PSI could not prevail.

Having found judicial precedent to bolster the theoretical justification basis for subjecting part of the intellectual property grant to adverse possession, we extend this concept in the next two sections first to firms without market power and then to firms with market power.

2. Firms Without Market Power

If a firm without market power in any relevant product market introduces a new product based in whole or in part on a collection of intellectual property rights, it would have three options for an ancillary market that would implicate its intellectual property rights (such as the sale of patented spare parts). First, it could prohibit the development of a secondary market at the outset by refusing to license or sell to anyone. For example, Apple Computer pursued this strategy when it refused to license its Mac operating system to hardware manufacturers interested in selling Apple clones (except for a brief period when it gave short-term licenses to select hardware manufacturers).[350] Because Apple did not have market power in either the personal computer operating system or hardware markets, this tying of the Mac OS to Apple hardware was permissible under standard tying analysis, even though the OS and hardware are separate products. Our proposal would lead to the same result.

A second alternative would be to grant limited rights to the ancillary market using contracts of relatively short duration.[351] This second situation would be analogous to a lease of real property, with ISO investment being analogous to leasehold improvements.[352] The third alternative would be to abstain from excluding other firms in the ancillary market, thus allowing that market to arise naturally.

It is in this third scenario that our concept of adverse possession of the intellectual property space comes into play. Just as real property owners have a right to exclude others from their property, intellectual property rights should also confer a right to exclude. Open and notorious occupation of real property, however, can confer ownership to the trespasser after a given period of time. As discussed earlier, we propose that the same principle be extended to the intellectual property

348. *Id*. at 822.
349. *Id*.
350. *See Apple Kills Clone Market*, WIRED NEWS, Sept. 2, 1997, *available at* http://www.wired.com/news/business/0,1367,6548,00.html (last visited Mar. 13, 2003).
351. *See supra* notes 92–94 and accompanying text.
352. The issue of sunk costs could then be dealt with contractually.

space. Just as the original property owner loses the right to eject those who successfully adversely possess the real property in question, if a firm allows an ancillary market to develop, it should not be able to later extinguish that market by changing its policy of intellectual property right enforcement. This adverse possession concept is consistent with *Kodak I*, in that even if the firm does not have market power in the primary product market, it may have market power in the secondary market if there are high switching costs and it permits a secondary market to develop.[353]

The prohibition against making an important change in a pattern of distribution that had originated in a competitive market and had persisted for a given period of time, as in *Aspen Ski*, only applies retroactively. The firm would retain the right to exclude the development of an ancillary market for future models of existing products or new products. Just as Ski Co. could have opened a new mountain without including it in the All-Aspen ski pass program, the firm could sell future primary products and maintain exclusive control of any potential ancillary market for those products.

Under this proposal, customers who purchased products when the possibility of an ancillary market existed would thus not be disadvantaged, whereas customers who purchased new products after the firm announced a policy of not selling replacement parts to ISOs would do so with the full knowledge of the unavailability of the ancillary market for their specific purchase. These new customers would be able to factor the lack of an ancillary market into their purchase decision.

Despite its environmental unpalatability, a good analogy is the creation of new coastal land through the process of dredging, such as occurred with Boston's Back Bay. Once the land was created, it theoretically would have been possible for someone, through open and notorious occupation of the landfill areas, to obtain rights in that land through adverse possession. That right of occupancy would not extend, however, to lands subsequently created unless there was similar open and notorious occupation of that new land. If the property creator excluded the prior adverse possessor from the new land, no adverse possession of that new land would take place.

Continuing with our expanded real property analogy, just as there may be public policy reasons to grant easements or rights-of-way across this newly created coastal landfill property for development purposes, it may be necessary to grant easements in the intellectual property space.[354] Although this situation seems more likely in the

353. Note that in this third scenario, if access to protected intellectual assets is initially required for such ancillary markets to arise, the cooperation of the firm is still required. If the ancillary market arises due to infringement, our proposal would not apply.

354. *See infra* Part V.A. for discussion of the applicability of the easements analogy.

copyright context given the fair use doctrine,[355] and less likely in the patent context given the Federal Circuit's narrow interpretation of experimental use,[356] our expanded notion of essential facilities discussed in detail in the next section could be considered an easement by necessity.[357]

An open question remains as to whether any refusal to deal could include a refusal to sell unpatented parts. If the firm in this instance does not have market power, such a refusal would not seem to run afoul of antitrust principles. If the firm had allowed an ancillary market to arise, however, it is possible that it could be found to have market power, as in *Kodak I*. In that event, the issue of refusing to deal in unpatented parts might be more problematic, and we would propose a Rule of Reason analysis.

3. Firms with Market Power

If a firm has market power in any market, the same three options would still be available for the introduction of a new product. The firm could act to prevent any ancillary market from arising by refusing to sell or license products embodying its intellectual property, or it could grant short term contracts to provide service. If the firm allowed the ancillary market to develop, however, it would be subject to the same adverse possession rule as the firm without market power.

Because the firm would also have market power in the primary market, its ability to exclude other firms from the ancillary market ex ante is subject to an additional constraint that is a variation of the Essential Facilities Doctrine. Historically, an essential facility has been found only in instances involving direct competitors. In fact, one of the core requirements for a facility to be deemed essential is "a [direct or horizontal] competitor's inability practically or reasonably to duplicate the essential facility."[358] In this instance we propose that the doctrine be extended to downstream competitors[359] but only in industries that exhibit network effects and only for new generations of technology where the prior technology could have been characterized as an essential facility. In this instance, the Rule of Reason would ap-

355. *See supra* note 20 and accompanying text.

356. *See supra* note 28 and accompanying text.

357. *See infra* notes 407–10.

358. *See* MCI Communications Corp. v. Am. Tel. & Tel. Co., 708 F.2d 1132 (7th Cir. 1983).

359. An example of a situation involving downstream competitors would be Microsoft, as developer of an operating system, relative to an applications developer that develops a competing product to one also offered by Microsoft (such as a word processor or spreadsheet). Relative to Microsoft, both Corel and Lotus would be examples of downstream competitors in the applications market that rely on Microsoft's operating system as an essential facility. *See infra* Part IV.B.3 for a detailed examination of the application of essential facilities to downstream competitors in industries that exhibit network effects.

ply. Part of the rationale for this extension is to maintain and enhance the incentives for interoperability.

Our extension of Essential Facilities Doctrine is based in part on a civil antitrust case in which one of the authors testified as an expert witness against Microsoft.[360] In that case, a small software manufacturer argued that Microsoft's Windows 95 was an essential facility. The U.S. District Court for the Southern District of Texas stated that an operating system such as Windows "could be an essential facility for application software, such as a word processing program,"[361] but not for a software product "whose sole purpose is to improve on . . . the facility at issue."[362] Therefore, the application of the Essential Facilities Doctrine turned on whether the software product ran on top of the operating system or inside of it.[363] If the latter, Essential Facilities Doctrine would have been inapplicable.[364] If the former, then Essential Facilities Doctrine might have applied.[365]

Although not addressed by the court, the logical conclusion of this opinion suggests the extension of the Essential Facilities Doctrine to downstream competitors because Microsoft was already engaged in the development and marketing of word processing applications. Nor should our proposed extension of essential facilities be limited to Microsoft operating systems.[366]

The question of whether the firm could refuse to sell unpatented spare parts still remains, but the answer is likely to be different for a firm with market power. A refusal to sell unpatented parts could be an instance of tying, but it could alternatively be a different unilateral refusal to deal. If the only use for the non-patented parts were to service the primary product, which would entail using aspects of the product protected by the intellectual property laws, then would the firm be entitled to withhold the unpatented parts? Nothing would preclude a separate manufacturer from making the unpatented parts, but both it and the ISO that installs them might be infringers (the manufacturer being a contributory infringer), depending on whether the firm sells or licenses the primary product. Thus, we would again propose a Rule of Reason analysis for any refusal to deal in unpatented parts.

360. David L. Aldridge Co. v. Microsoft Corp., 995 F. Supp. 728 (S.D. Tex. 1998) (Mr. Clarkson testified on behalf of the plaintiff.).

361. *Id*. at 754.

362. *Id*.

363. *Id.* at 753–54.

364. *Id.* at 756.

365. *Id.*

366. For an example outside the Microsoft context, see *infra* Part IV.B.3 regarding a variation of the *Intergraph* case.

B. Application to Unilateral Refusal to Deal

Having developed our proposal establishing the constraints on a firm's ability to refuse to license or sell items embodying its intellectual property, we now proceed to evaluate several relevant fact patterns to show how our proposal would be applied.

1. Large Fixed Assets (the *Kodak* and *Xerox* scenarios)

Under our proposal, a firm that offers a large fixed asset product to the market has three choices:

> • Announce a policy that it will not sell replacement parts to anyone, so that consumers buying the product will not expect ISO service to be available.
>
> • Enter into exclusive ISO contracts of relatively short duration that will be put up to bid subsequently so that there is competition in the contract (a situation akin to a lease of real property).
>
> • Sell replacement parts to anyone.

Kodak chose the third option, but then later changed to the first option. Under our proposal, the ruling in *Kodak I* would remain the same. While the outcome of *Kodak II* would also be the same, the determining factor would be entirely different. Whereas the Ninth Circuit focused on the subjective intent of Kodak's management, our proposal eschews the examination of intent altogether. Unlike the intent examination, which would almost always require that the matter go to a jury, the adverse possession determination could be made by a judge as a matter of law pursuant to a motion for summary judgment.

If Kodak introduced a new type of copier, given that Kodak does not have market power in the copier market, it would be permitted to sell its machines under a policy announced at the time of sale that there will be no replacement parts sold to ISOs. Even if Kodak initially were willing to sell replacement parts to ISOs, Kodak would be permitted to change that policy for new models going forward but not retroactively for existing models. In other words, if Kodak permitted the ISOs to occupy part of the space that Kodak could have occupied initially, then Kodak could not now extinguish that market. If this were not the case, Kodak could impose costs on consumers not contemplated at the time of purchase. This restriction means that when consumers are deciding which copier to buy, they need to take into account the effect of Kodak's service contract fees when deciding whether to purchase the Kodak copier or a copier produced by another manufacturer.

Our analysis of the facts of the *Xerox* case produces an outcome similar, but not identical, to that of the Federal Circuit's decision. Our proposal would allow Xerox to continue its policy of refusing to sell parts to the ISOs, but it would differ significantly from the Federal Circuit's decision in its treatment of Xerox's retroactive application of the policy. Xerox would be able to refuse to sell parts to ISOs for service on new models sold after the policy change, but it could not refuse to sell parts for copiers sold during the time of the previous policy. While the ISOs would be foreclosed from servicing a part of the future market, they would still be able to service existing customers; thus, those customers would also be protected. In either instance, the copier industry clearly does not exhibit network effects, so our modified Essential Facilities Doctrine would not apply.

2. Creation of a New Product Market: Segway

The Segway Human Transporter ("HT") is one of inventor Dean Kamen's latest innovations. The Segway HT is a self-balancing, electric powered personal transportation machine that emulates human balance, which is controlled by subtle shifts in body weight.[367] Prior to its unveiling last December, the product was codenamed "Ginger" in order to keep the identity of the device secret.[368] Since then, the "Segway HT has gained widespread interest from consumers and businesses around the globe."[369]

The Segway HT is protected by a number of patents,[370] and the device is arguably sufficiently unique as to define a market in and of itself.[371] In that market, Segway LLC clearly has market power, but its initial three options would remain the same as for a firm without market power: no ISOs, contracted ISOs, or selling parts to anyone.

Currently it appears that Segway has chosen option number one, although it is offering to provide training for service technicians.[372] Although Segway clearly has market power in the market for self-balancing, electric powered personal transportation machines, such a

367. Press Release, Segway LLC, *$500,000 Lemelson-MIT Prize Awarded to Dean Kamen* (Apr. 23, 2002), at http://www.segway.com/aboutus/press_releases/pr_042302b.html.

368. *Id*.

369. *Id*.

370. A quick LEXIS search identified at least seventeen patents registered to Dean Kamen related to personal balancing vehicles.

371. It could also be viewed as a substitute for bicycles or motorized scooters, but for our purposes here, we assume the market for self-balancing transporters is sufficiently distinct so as to be a separate market.

372. *See* Segway Support *at* http://www.segway.com/support/ (last visited Feb. 19, 2003).

market does not exhibit network effects, and thus our modification to the Essential Facilities Doctrine would not apply.

3. Operating Systems and APIs (Microsoft)

Copiers and other capital equipment have long service lives and are often replaced when they wear out. Operating systems, however, never wear out and are instead replaced when a new version is released, often with a relatively brief time between releases. Switching costs for copiers are based primarily on the cost of the new copier with the labor costs being a small fraction of total costs. Conversely, the cost of a software upgrade is usually fairly small; the bulk of any switching costs are a function of the labor cost associated with both installing the new software and training the user how to operate it.

The switching costs for operating systems are increased dramatically, however, if all of the applications software must be replaced. To reduce those costs, most software development in the last decade or so has been done using connections to the operating system called Application Programming Interfaces ("APIs"). As the D.C. Circuit pointed out:

> Operating systems . . . function as platforms for software applications . . . by "exposing" — i.e., making available to software developers — routines or protocols that perform certain widely-used functions [called APIs]. For example, Windows contains an API that enables users to draw a box on the screen. Software developers wishing to include that function in an application need not duplicate it in their own code. Instead, they can "call" — i.e., use — the Windows API. Windows contains thousands of APIs, controlling everything from data storage to font display.
>
> Every operating system has different APIs. Accordingly, a developer who writes an application for one operating system and wishes to sell the application to users of another must modify, or "port," the application to the second operating system. This process is both time consuming and expensive.[373]

A potential problem arises when the operating system programmers work for a different company from some, but not all, of the ap-

373. *Microsoft 2001*, 253 F.3d 34, 53 (D.C. Cir. 2001).

plications programmers. If the operating system company provides its own applications programmers earlier access to the APIs than it provides to applications programmers at other companies, then those other companies would be at a tremendous competitive disadvantage.

The Justice Department alleged a variation of this fact pattern in its first suit against Microsoft where Microsoft purportedly conditioned access to APIs on agreements by software manufacturers not to work with competing technologies.[374] However, the allegation was neither part of the first consent decree approved in 1995 nor raised as an issue in the subsequent litigation. It seems that Judge Jackson's remedy of breaking up Microsoft into an operating systems company and an applications company evidenced his concern that Microsoft was leveraging its dominance in the OS market to obtain monopoly power in the applications market. The requirement imposed by the Final Judgment in *United States v. Microsoft Corp.*,[375] however, that Microsoft provide rival applications firms earlier access to its Windows APIs appears to eliminate at least some of the advantages enjoyed by the Microsoft applications group.

Operating systems clearly demonstrate network effects, given that the more users there are for a particular operating system, the more applications are likely to be written to run on top of that operating system.[376] In his findings of fact, Judge Jackson described the situation as follows:

> Consumer demand for Windows enjoys positive network effects. A positive network effect is a phenomenon by which the attractiveness of a product increases with the number of people using it. The fact that there is a multitude of people using Windows makes the product more attractive to consumers. The large installed base attracts corporate customers who want to use an operating system that new employees are already likely to know how to use, and it attracts academic consumers who want to use software that

374. *See* Complaint of United States at 6–7, *Microsoft 2001*, 253 F.3d 34 (D.C. Cir. 2001), http://www.usdoj.gov/atr/cases/f0000/0046.htm (last visited Feb. 19, 2003).

375. 2002 U.S. Dist. LEXIS 22864 (D.D.C. 2002).

376. *See* Abramson, *supra* note 188 at 173; *see also, e.g.,* Richard J. Gilbert & Michael L. Katz, *An Economist's Guide to U.S. v. Microsoft*, UC Berkeley Working Paper (2001)*, at* http://iber.berkeley.edu/wps/econ/E01-300.pdf; Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 479 (1998); Carl Shapiro, Antitrust in Network Industries, address before the American Law Institute and American Bar Association, delivered Jan. 25, 1996 (transcript *available at* http://www.usdoj.gov/atr/public/speeches/shapir.mar); Michael L. Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. ECON. PERSP. 93 (1994).

> will allow them to share files easily with colleagues at other institutions.[377]

The D.C. Circuit referred to this phenomenon as a "chicken-and-egg situation[, which] ensures that applications will continue to be written for the already dominant Windows [platform], which in turn ensures that consumers will continue to prefer it over other operating systems."[378]

Therefore, if an operating system manufacturer developed an upgrade to its operating system and refused to give outside developers of applications software the same access to the new APIs as it gave to its internal applications software developers, application of our framework would likely result in the operating system manufacturer being compelled to grant access to the APIs on a prompt, reasonable, and non-discriminatory basis.[379]

Whereas we might not be able to achieve such a result based on monopoly leveraging,[380] application of essential facilities in the case of a product exhibiting network effects produces the appropriate result. Our proposal would thus lead to the same result as the Final Judgment in *United States v. Microsoft Corp*.[381]

While Microsoft is the most obvious scenario for the application of our proposed extension of essential facilities, it is by no means the only one. If Intel had manufactured graphical workstations at the time of the *Intergraph* case, our proposal would have suggested[382] that access to the "special strategic customer benefits"[383] would have in fact been an essential facility.

4. European Application

The issues addressed in this Article are not unique to the United States, and the European Union has developed its own jurisprudence

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377. United States v. Microsoft Corp., 84 F. Supp. 2d 9, 20 (D.D.C. 1999).

378. *Microsoft 2001*, 253 F.3d at 55 (internal quotation marks omitted).

379. The question of what is a reasonable royalty is non-trivial. The Federal Circuit has stated that the determination of "a fair and reasonable royalty is often . . . a difficult judicial chore, seeming often to involve more the talents of a conjurer than those of a judge." Fromson v. Western Litho Plate & Supply Co., 853 F.2d 1568, 1574 (Fed. Cir. 1988). As Judge Learned Hand put it, "the whole notion of a reasonable royalty is a device in aid of justice, by which that which is really incalculable shall be approximated." Cincinnati Car Co. v. New York Rapid Transit Corp., 66 F.2d 592, 595 (2d Cir. 1933).

380. *See supra* Part II.E.

381. 2002 U.S. Dist. LEXIS 22864 (D.D.C. 2002). The 2002 Final Judgment does not, however, rely on essential facilities as a rationale.

382. The district court found an essential facility in *Intergraph Corp. v. Intel Corp.*, 3 F. Supp. 2d 1255, 1278 (N.D. Ala. 1999), but incorrectly so, as there was no competition between Intel and Intergraph in any market.

383. *See* discussion of the Intergraph case, *supra* Part III.E.

regarding such matters.[384] Although our framework seems to be more specific than the European approach, the two can be reconciled. In the European Union, the European Commission held that it was unacceptable for IBM to tie sales of its CPU to sales of its memory and service.[385] In contrast, the Commission said that it was acceptable for Kyocera, a Japanese computer printer company, to offer discounted bundles of Kyocera-made printer toner cartridges and other Kyocera-made printer hardware even though the bundle might otherwise have been characterized as an impermissible economic tie.[386] Pelikan, a German manufacturer of toner cartridges for use with Kyocera printers, had challenged both the bundles and Kyocera's policy of not honoring warranty claims for printers damaged by non-Kyocera toner cartridges as an abuse of Kyocera's dominant position.[387] The Commission found: (1) that Kyocera did not have a dominant position in the market for toner cartridges despite its large share of the toner market; (2) that there was fierce competition in the primary market for printers that restrained Kyocera's behavior in the secondary market for toner; (3) that purchasers of printers were well informed about the price charged for toner and appeared to take this into account when selecting a printer; and (4) that the cost of toner was a significant part of the cost of the entire product.[388] As a result, if Kyocera had attempted to raise the price of its toner cartridges, then the low switching costs would lead customers to junk the printer and buy another brand for which cheaper toner cartridges were available.[389] This contrasts sharply with the situation in *Kodak I* when Kodak changed its

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384. *See* TREATY ESTABLISHING THE EUROPEAN COMMUNITY, Nov. 10, 1997, O.J. (C 340) 3 (1997) [hereinafter EC Treaty]. Article 81 of the EC Treaty (originally Article 85, but subsequently renumbered) prohibits undertakings from entering into agreements that have as their object or effect the restriction, prevention, or distortion of competition within the Common Market. Article 82 (originally Article 86) prohibits the abuse by undertakings of a dominant position in a particular market to the detriment of trade between Member States. A dominant position "has always been defined by the Commission as the ability to act to an appreciable extent independently of competitors and consumers. Therefore, an in-depth fact-finding exercise and analysis on a case-by-case basis are required." Commission of the European Communities, 25th Report on Competition Policy 41 (1995), *available at* http://europa.eu.int/comm/competition/publications/ra9501en_en.pdf (last visited Feb. 19, 2003). Generally, "examination of the characteristics of a sector of activity in order to decide whether or not it constitutes a market within the meaning of Article 86 of the Treaty cannot be carried out in the abstract, but on the contrary must be established on a case-by-case basis with the aim of analysing the behaviour of the undertaking in question in the light of competition law." Commission Decision Relating to a Proceeding Pursuant to Articles 85 and 86 of the European Economic Community Treaty 94/210, art. 116, 1994 OL (L 104) 34.

385. *See* Commission of the European Communities, 14th Report on Competition Policy, 78 (1984).

386. *See* Commission of the European Communities, 25th Report on Competition Policy 41 (1995) (1995), *available at* http://europa.eu.int/comm/competition/publications/ra9501en_en.pdf.

387. *Id*.

388. *Id*.

389. *Id*.

policy after customers were locked into a high cost capital asset with high switching costs.

Currently before the European Court of the First Instance is a case somewhat similar to the facts in *Data General*.[390] In *IMS Health Inc. v. Commission of the European Communities*, IMS Health developed a sophisticated method of tracking pharmaceutical sales involving a new data structure.[391] In November and December of 2000, IMS successfully sued two other competitors for copyright infringement before the Landgericht Frankfurt and obtained an injunction prohibiting them from using the new data structure.[392] The Oberlandesgericht Frankfurt subsequently overturned the injunction.[393] The Commission of the European Communities then imposed a compulsory licensing requirement,[394] concluding both that IMS's data structure was an essential facility[395] and that IMS's "refusal to license the use of its copyright . . . constitutes an abuse of the dominant position it enjoys in the relevant market."[396] IMS then appealed to the Court of the First Instance, which suspended the injunction until the main action is decided.[397]

Under our test, for IMS to be found liable for refusing to license new technology in the pending case, IMS would have to be in a position of market power and its copyrighted data structure would have to be both an essential facility and a network effects type technology. While IMS seems to be in a position of market power,[398] given that the two other competitors "already have a significant number of customers and have both developed alternative (and allegedly non-infringing) [data] structures that they can continue to use and improve,"[399] it would appear unlikely that the new data structure would be found to be both an essential facility and to exhibit significant network effects.

C. Application to Unilateral but Conditional Refusal to Deal

At first glance it would seem logical that if an intellectual property right holder has the right to unilaterally refuse to deal with someone, that right would include the right to conditionally refuse to deal with that same someone, particularly given that conditional dealing

390. Data Gen. Corp v. Grumman Corp., 761 F. Supp. 185 (D. Mass. 1991). For our discussion of the case, see *supra* Part III.E.3.
391. Case T-184/01, 1 E.C.R. 3193 (2001).
392. *Id*. at 6–8.
393. *Id*. at 10.
394. *Id*. at 12–18.
395. *Id*. at 11.
396. *Id*. at 47.
397. *Id*. at 104.
398. *Id*. at 14.
399. *Id*. at 92.

might be more accommodating. As economist Carl Shapiro has pointed out, however, it is possible to "create incentives through conditional refusals that you can't create through unconditional refusals."[400]

While our framework was designed to answer questions regarding unilateral (or unconditional) refusals to deal, it may still provide some insight for conditional refusals to deal when we reexamine the various scenarios examined above.

1. Large Fixed Assets

The possibility of adverse possession of certain elements of the intellectual property grant would still apply in this instance, and so the analysis would turn on whether incentive modifications resulting from the conditional refusal to deal are such that they result in an impermissible recapture of the intellectual property right space that was previously lost to adverse possession. If the firm has market power, its attempt to recapture that space through the imposition of conditions are more likely to be categorized as either tying or monopoly leveraging.

2. Segway

The analysis for this scenario remains the same, as long as Segway continues to foreclose the possibility of ISOs. As with the prior example, however, if Segway allows a secondary market to develop, it runs the risk of liability for either tying or monopoly leveraging if it attempts to recapture that secondary market through conditional refusals to deal.

3. Operating Systems

It is hard to discuss this scenario without being heavily influenced by the D.C. Circuit's decision in *Microsoft 2001*.[401] We would argue that in *Microsoft 2001*, the court misinterpreted the *Xerox* opinion. Although the court correctly cited *Xerox* for its statement "intellectual property rights do not confer a privilege to violate the antitrust laws,"[402] it seemed to ignore the very next sentence in the *Xerox* opin-

400. *See* Department of Justice Antitrust Division and Federal Trade Commission, Hearing on Competition and Intellectual Property Law and Policy in the Knowledge Based Economy, "Strategic Use of Licensing: Is There Cause for Concern about Unilateral Refusals to Deal?" 156, May 1, 2002, *available at* http://www.ftc.gov/opp/intellect/020501xscript.pdf.

401. *Microsoft 2001*, 253 F.3d 34 (D.C. Cir. 2001).

402. *Id.* at 63 (quoting *Xerox*, 203 F.3d 1322, 1325 (Fed. Cir. 2000)) .

ion: "it is also correct that the antitrust laws do not negate the patentee's right to exclude others from patent[ed] property."[403]

Many of the allegations against Microsoft that could be characterized as conditional refusals to deal, however, were "garden variety" tying and monopoly leveraging in areas in which Microsoft was not asserting intellectual property protection. Given that our framework only attempts to address instances where intellectual property rights form the basis for refusal to deal, either unconditional or conditional, we have not addressed those other garden variety areas in this Article.

To the extent that Microsoft sought to justify limiting its OEMs' ability to change the user interface or its policy of selling Windows at a lower price to OEMs who agreed not to install competing software, the D.C. Circuit correctly characterized those activities as willful attempts to maintain Microsoft's monopoly on Intel-compatible PC operating systems. The primary evil the Final Judgment sought to address by requiring uniform licenses was Microsoft's attempt to deter OEMs from dealing with Microsoft's competitors. Such conduct would appear to be impermissible even in the Federal Circuit given the Federal Circuit's reasoning in *Xerox* that a patent infringement suit or counter-claim is not immune from antitrust scrutiny when it is a mere sham to disguise an attempt to interfere directly with the business relationship of a competitor.

V. POSSIBLE CRITIQUES

Critiques of our proposal are likely to come from two different perspectives. The first concerns the appropriateness of the adverse possession analogy itself. The second involves the practicability of our proposal. We discuss each in more detail in the following two sections.

A. Real Property Critique — Why Not Easements for Intellectual Property?

Given that we are proposing the application of adverse possession to intellectual property, one might ask why is not easement a better analogy for what we are trying to accomplish? To answer this question, we need to look at the different types of easements and the way such easements are created.

With respect to use, easements can be classified as either positive or negative.[404] Positive, or affirmative, easements give the holder of

403. *Xerox*, 203 F.3d at 1325 (quoting Intergraph Corp v. Intel Corp, 195 F.3d 1346, 1362 (Fed. Cir. 1999)).

404. *See* HERBERT HOVENKAMP & SHELDON F. KURTZ, THE LAW OF PROPERTY 320 (2001).

the easement a right to do something on someone else's land,[405] thus requiring the original owner to share access to the land to some degree. Conversely, negative easements, or restrictive covenants, give the holder of the easement the right to keep a landowner from doing something on her own land.[406] Like adverse possession, negative easements can be used to preclude the original owner from exercising the full complement of property rights in the original space. Whether positive or negative, easements can be created by implication, prescription, necessity, estoppel, express provision, or eminent domain.[407] We discuss the first three types as they might apply to intellectual property.[408]

Implied easements are generally created when an express agreement between the parties is either silent or ambiguous as to whether the grantor intended to create an easement, or when a formal easement effectuating the intent of the parties was omitted by mistake.[409] Such easements are usually associated with sales, transfers, or conveyances of land.[410] An example would be where the owner of both parcel A and B has historically crossed parcel A to reach the main highway from parcel B. That owner subsequently sells parcel B to another owner but neglects to expressly create an easement to allow the new owner to access the highway. The new owner of parcel B would be entitled to an easement across parcel A along the same path as was previously used by the original owner to reach the road.[411] Such an

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405. *See* SINGER, *supra* note 315, at 171; *see also* HOVENKAMP & KURTZ, *supra* note 405, at 320 (affirmative easements "entitle the easement owner to do affirmative acts on the land in the possession of another").

406. *See* SINGER, *supra* note 315, at 171; *see also* HOVENKAMP & KURTZ, *supra note* 404, at 320 (negative easements "take from the owner of the servient estate the right to do some things which, were it not for the easement, she would have a right to do on her own land").

407. *See* HOVENKAMP & KURTZ, *supra* note 404, at 321. Hovenkamp and Kurtz classify easements by implication and by necessity together as easements by implication. *Id*. at 322–23. Professor Singer suggests a different classification scheme whereby easements by estoppel, easements by necessity, and easements implied by prior use are collectively referred to as easements by implication, which he also calls quasi-easements. *See* SINGER, *supra* note 315, at 176–89.

408. Easements by estoppel usually arise in the context of a real property license. *See* SINGER, supra note 315, at 177. Express easements in the intellectual property context would also be in the form of a license, and intellectual property licenses already have a separate place in the antitrust enforcement regime. *See*, *e.g.*, United States Dep't of Justice & Fed. Trade Comm'n, Antitrust Guidelines for the Licensing of Intellectual Property (1995), *available at* http://www.usdoj.gov/atr/public/guidelines/ipguide.htm. Easements by eminent domain seem inapplicable to the scenarios at issue. For a discussion of such easements in the intellectual property context, however, see generally Thomas F. Cotter, *Do Federal Uses of Intellectual Property Implicate the Fifth Amendment?* 50 FLA. L. REV. 529 (1998).

409. *See* SINGER, *supra* note 315, at 176, 185.

410. *Id*.; *see also* HOVENKAMP & KURTZ, *supra* note 404, at 321 (easements by implication are "created by law in connection with a conveyance of part of a tract of land").

411. *See*, *e.g.*, Granite Props. Ltd. P'ship v. Manns, 512 N.E. 2d 1230, 1236 (Ill. 1987) (Easements implied from prior use arise when the owner of two or more adjoining parcels,

easement would be implied from prior use, and such easements are generally limited to situations where there has been a transfer or conveyance of property.[412]

In the intellectual property situations that we have examined, this construction does not seem to apply. The original owner is not conveying ownership of the ancillary market space, but is instead permissively allowing occupancy of that space by firms such as the ISOs. Although it is true that patented spare parts are being sold to the ISOs, such sales do not convey the ancillary market space for servicing the equipment itself. If the original owner sold its service business to an ISO, the ISO might reasonably expect a continued supply of patented spare parts. That fact pattern, however, would be an entirely different situation from the scenarios that are at issue here. Thus, an analogy of easements implied from prior use seems less appropriate than our adverse possession analogy.

The second type of easement is an easement by prescription. An easement by prescription is a positive right relative to another owner's land that is obtained through the same principles as adverse possession.[413] Unlike the doctrine of adverse possession, however, whereby the original owner may be precluded from certain activities that were allowable before the adverse possession took place, negative easements cannot be acquired by prescription.[414] Accordingly, for easements by prescription, the original owner is not excluded from fully participating[415] in the space covered by the easement.[416]

Under *Kodak I*,[417] if the original owner of the ancillary market has market power in the primary market, then the original owner may be precluded from engaging in certain types of anticompetitive conduct, such as tying and exclusive dealing.[418] An analogy of a prescriptive easement in the ancillary market space could not preclude the original owner from engaging in tying to exclude competition, how-

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where one parcel derives from the other a benefit or advantage of an apparent, continuous, and permanent nature, transfers or conveys one of the parcels without mention being made of these incidental uses. "In the absence of an expressed agreement to the contrary, the conveyance or transfer imparts a grant of property with all the benefits and burdens which existed at the time of the conveyance of the transfer, even though such grant is not reserved or specified in the deed.").

412. *See* HOVENKAMP & KURTZ, supra note 404, at 322 (Easements by implication can only be established if "at the time of the conveyance one part of the land is being used for the benefit of the other part." Absent a conveyance, there can be no implied easement.).

413. *See* SINGER, *supra* note 315, at 190; *see also* HOVENKAMP & KURTZ, *supra* note 404, at 322 ("Easement by prescription arises by adverse use of the servient estate by the dominant tenant for the period of the statute of limitation used for adverse possession.").

414. SINGER, *supra* note 315, at 197.

415. Minus the right to exclude the holder of the easement from the relevant space.

416. This limitation would also exist for both easements implied from prior use and easements by necessity.

417. 504 U.S. 451, (1992).

418. *See supra* Part III.A.

ever, because such a preclusion of the original owner would constitute a negative prescriptive easement, which would be invalid. Unlike an easement, the adverse possession analogy would allow such activity to be prevented.[419]

For example, an original owner such as Segway can exclude all other sources of service for its devices because there is no ancillary market for service that is separate and distinct from the market for Segway devices. However, if Segway allows such an ancillary market to arise, subsequent attempts to force customers to get service only from Segway would be a case of impermissible tying under our adverse possession analogy, but not under an easement analogy.[420]

Although the adverse possession analogy is preferable to an easement analogy in the intellectual property space for existing products, our extension of the Essential Facilities Doctrine to the intellectual property space for new products may be analogous to another type of implied easement, an easement by necessity. Easements by necessity generally arise out of the need to prevent landlocked parcels of real property.[421] Some scholars have suggested that if application of the Essential Facilities Doctrine required the license of an intellectual property right,[422] then the result would be an "easement across the monopolist's intellectual property."[423] In the applications software context, for example, the software developers own their own intellectual property space, but if they are denied access to the APIs for the next generation of the relevant operating system, they could be viewed as being landlocked in their intellectual property space with no way to reach the customers who upgrade to the new operating system. We believe that an application of the Essential Facilities Doctrine that allowed the applications programmers to access the APIs could

419. Some of the potentially difficult issues regarding the specific elements of adverse possession, such as permissive use, or what constitutes adverse or hostile occupation, are the same for prescriptive easements. Those issues have already been addressed in *supra* Part IV.A.1.

420. Under either analogy, however, a reseller of used Segways could tie sales and service without restriction, as long as that reseller is not in a position of market power.

421. *See* SINGER, *supra* note 315, at 187. Singer also points out that prior use is not required to obtain an easement by necessity. *Id*. Note that Hovenkamp and Kurtz limit easements by necessity to those situations "when property becomes landlocked by virtue of a conveyance. [In that situation,] the landowner who can show strict necessity is entitled to a right of way across the severing line that made the property landlocked." HOVENKAMP & KURTZ, *supra* note 404, at 323.

422. *See* Maureen A. O'Rourke, *Striking a Delicate Balance: Intellectual Property, Antitrust, Contract, and Standardization in the Computer Industry*, 12 HARV. J.L. & TECH. 1 (1998).

423. Teague I. Donahey, *Terminal Railroad Revisited: Using the Essential Facilities Doctrine to Ensure Accessibility to Internet Software Standards*, 25 AM. INTELL. PROP. LAW ASS'N Q.J. 277, 313 (1997).

appropriately be characterized as an easement,[424] as could the fair use doctrine applicable to copyrights.[425]

B. Intellectual Property and Antitrust Critiques

Although we feel that our adverse possession analogy is preferable to an easement analogy, several potential critiques still exist relative to the applicability of our proposal. One such possible critique of our extension of essential facilities to downstream competitors is that such an application would necessitate a reversal of *Berkey Photo*.[426] Given that we constrain our extension to existing markets that exhibit network effects, however, the introduction of a new type of camera/film combination would not qualify for such an extension of essential facilities.

One might also point out that the Federal Circuit has been reluctant to extend the Essential Facilities Doctrine to downstream competitors, noting in *Intergraph* that

> no court has taken it beyond the situation of competition with the controller of the facility, whether the competition is in the field of the facility itself or in a vertically related market that is controlled by the facility. That is, there must be a market in which plaintiff and defendant compete . . . . Absent such a relevant market and competitive relationship, the essential facility theory does not support a Sherman Act violation.[427]

At the time of the Federal Circuit opinion, Intel and Intergraph were not competitors,[428] and thus the district court's ruling that "Intel's superior microprocessor product and Intergraph's dependency thereon converted Intel's special customer benefits into an 'essential facility' under the Sherman Act [could] not be sustained."[429] Unlike

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424. Reverse engineering, however, would be closer to the fair use situation in the Sega v. Accolade case, discussed *supra* in Part III.E.3.

425. Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263 (2d Cir. 1979), *cert. denied,* 444 U.S. 1093 (1980). *See* supra text accompanying notes 355–356.

426. *See* supra Part II.E for discussion.

427. Intergraph Corp. v. Intel Corp., 195 F.3d 1346, 1357 (Fed. Cir. 1999).

428. Hovenkamp, Janis, and Lemley suggest, however, that the Federal Circuit was "arguably incorrect to conclude that the parties were not in the same market, [given that] Intergraph's *intellectual property rights*, the assertion of which triggered the dispute, were in the same technology market as Intel's primary line of business (microprocessors)" (emphasis added). The authors do point out that the Federal Circuit's "failure to recognize this does not affect the essential facilities analysis, however, because any such competition would exist in the market for the essential facility itself, not the downstream market Intel was allegedly trying to control." IP AND ANTITRUST, *supra* note 1, § 13.3c2 n.23.

429. *Intergraph.* at 1358; *see also supra* Part III.E (discussing *Intergraph*).

the situation in *Intergraph*, however, we limit our extension of essential facilities to the case where the holder of the essential facility does compete in the downstream market.[430]

The district court in *Data General* also cautioned against an expansive application of essential facilities:

> The "bottleneck" of [Data General's] superior knowledge in the design of [its own] computers is insufficient to invoke the essential facilities doctrine; a better mousetrap is not necessarily an essential facility. The Sherman Act has not been interpreted to require manufacturers to abandon their advantage in creating accessories to their systems. If manufacturers of complex and innovative systems were required to share with competitors the development of accessories, because they had a possibly absolute advantage through producing the system, the incentives of copyright and patent laws would be severely undermined. Not only would the manufacturer, who is in the best position to create these accessories, have less incentive to do so, but also the impetus for competitors to reverse engineer and produce competing solutions would be reduced.[431]

We agree wholeheartedly and thus limit our extension of the Essential Facilities Doctrine to situations where the essential facility owner competes directly in the downstream markets, and only then in industries exhibiting network effects. We would not characterize copier spare parts or software diagnostics as essential facilities, but we would characterize operating system APIs necessary for developing software applications as essential facilities. Thus the application of our proposed extension is quite narrow.[432]

One could also argue that our adverse possession argument could be applied to the problem of patent nonuse or patent suppression[433] and thus be used to deprive firms of strategic options regarding their intellectual property portfolios. Our proposal is limited, however, to arenas where the patents in question are already in use by either their owners or their licensees and the issue is whether other firms should also be allowed to make use of the patented technology. The idea of

430. As would be the case with Microsoft and other desktop applications developers.
431. Data Gen. Corp v. Grumman Corp., 761 F. Supp. 185, 192 (D. Mass. 1991).
432. Although not so narrow as to be limited only to the facts of the Microsoft litigation.
433. For an excellent discussion of this subject, *see* Saunders, *supra* note 238.

compulsory licensing to combat patent nonuse or suppression[434] is thus completely separate.

Such a distinction should sufficiently insulate our proposal from the concern that it contravenes established Supreme Court jurisprudence that "[t]here is nothing in the patent law that requires working of a patented invention and the general rule is that a patentee need not use its inventions."[435] In *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, the Court upheld a patentee's right to "accumulate patents merely for the purpose of protecting [its] general [industry] and shutting out competitors" in order to make more money with prior patented technology.[436] Numerous cases have subsequently upheld the right not to use a patent.[437]

VI. CONCLUSION

Other scholars have attempted to address the conflict between *Xerox* and *Kodak II* from various perspectives, [438] but we believe that our proposal provides a more elegant model for addressing the broader question of how to evaluate refusals to license not just patents but also copyrights and trade secrets. Our proposal triangulates between the conflicting positions on the treatment of intellectual property in the shadow of the antitrust regime contained in the *Kodak II*, *Xerox*, and *Microsoft* opinions, and it stakes out a position that appropriately protects competition while still respecting the rights of the intellectual property owner.

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434. *See id.* at 434.

435. Sobel, *supra* note 236, at 691.

436. 210 U.S. 405, 428 (1908).

437. *See, e.g.*, Dawson Chem. Co. v. Rohm & Haas Co. 448 U.S. 176, 215 (1980) (discussing the "long-settled view that the essence of a patent grant is the right to exclude others from profiting by the patented invention"); Special Equip. Co. v. Coe, 324 U.S. 370 (1945); United Shoe Mach. Corp. v. O'Donnell Rubber Prods. Co., 84 F.2d 383, 386 (6th Cir. 1936) ("Whatever may be the policy of patent laws elsewhere, it has long been settled that, in the United States, exclusion of competitors is the very essence of the right conferred by a patent, and it is the privilege of any owner of property to use or not to use it without question of motive."); Crown Die & Tool Co. v. Nye Tool & Mach. Works, 261 U.S. 24, 35 (1923) (A patentee may refuse "to make, use or vend his patented invention . . . ." The "essence" of "the patent was the right to exclude others . . . ."); Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502, 514 (1917) (Under the patent system, a patent owner clearly had the right to "withhold his patent[ed] machine from public use . . . ."); Lewis Blind Stitch Mach. Co. v. Premium Mfg. Co., 163 F. 950, 954 (8th Cir. 1908) ("[D]uring the life of his monopoly, a patentee is under no obligation to use or place upon the market . . . his invention.").

438. *See, e.g.*, Mark R. Patterson, *When Is Property Intellectual? The Leveraging Problem*, 73 S. CAL. L. REV. 1133 (2000); Carrier, *supra* note 297; Jonathan I. Gleklen, *Per Se Legality for Unilateral Refusals to License IP is Correct as a Matter of Law and Policy*, THE ANTITRUST SOURCE (July 2002), *available at* http://www.abanet.org/antitrust/source/july02/gleklen.pdf; Jeffrey K. MacKie-Mason, *Antitrust Immunity for Refusals to Deal in (Intellectual) Property Is a Slippery Slope*, THE ANTITRUST SOURCE (July 2002), *available at* http://www.abanet.org/antitrust/source/july02/mackie.pdf.

While philosophically closest to the Federal Circuit's position in *Xerox*, our proposal starts with the premise that intellectual property owners should be rightfully entitled to claim the full scope of their property grant, and that any activity within the scope of that grant is permissible. We qualify that original premise, however, by introducing a concept of adverse possession for intellectual property as a restriction on certain activities that would otherwise be within the scope of the intellectual property grant. We justify our application of adverse possession to intellectual property using many of the same arguments that are used for real property, including reliance, moral, and Lockean justifications.[439]

Our proposal dictates that intellectual property owners should be entitled *ab initio* to exclude other firms from developing ancillary markets within the scope of the original intellectual property grant, via unilateral refusals to license the intellectual property. If, however, the other firms are not excluded and ancillary markets develop and provide a product or service that is separately demanded by consumers, then, after a sufficient period of time, adverse possession would preclude the original intellectual property owners from excluding other firms from the ancillary markets as they pertain to existing products.[440] The intellectual property owner would, however, be entitled to foreclose the development of new ancillary markets relating to new products unless (1) the intellectual property owner again fails to claim the entire scope of the intellectual property grant relative to potential ancillary markets, or (2) the intellectual property owner has market power and the underlying product is one that is characterized by network effects. In the latter case, we propose an application of the Rule of Reason if the underlying product is found to be an essential facility.

One of the requirements that we imposed on ourselves in crafting our proposal was that the resulting test be sufficiently objective so as to be appropriately applied at summary judgment. Resolving such cases at summary judgment is a more efficient use of judicial resources than the intent-based inquiry proposed in *Kodak II*, which requires a jury to subjectively evaluate the intent of the intellectual property owner. Given that the Sixth Circuit upheld the district court's summary judgment ruling in *PSI Repair Services. v. Honeywell, Inc.*[441] using a rationale that is quite consistent with our proposal, we are confident that our test can be applied at summary judgment.

Rather than merely stating a theoretical case for our proposal, we have also demonstrated how our proposal would operate in various

439. *See supra* Part IV.A.1.

440. Consistent with our desire to protect both competition and consumers, the prohibition against excluding other firms would include both current occupants as well as future entrants.

441. 104 F.3d 811, 822 (6th Cir. 1997).

market scenarios. We examined, both for firms with and without market power, how our proposal would resolve the situations presented by large fixed asset purchases, the introduction of entirely new products, and operating systems with network effects. We have even demonstrated how our proposal could be applied in the European antitrust enforcement context. Thus, our proposal adheres to the admonishment in *Kodak I* that any test must be objectively based on market realities rather than "[l]egal presumptions that rest on formalistic distinctions."[442]

Questions to be considered later include whether a company that would otherwise like to integrate its products should be required to provide unbundled versions so that consumers wanting to buy one product but not another would have the ability and incentive to do so. In other words, again taking the Microsoft example, should Microsoft be required to sell a version of Windows without an Internet browser or other piece of application software? One way to analyze this question might be to use the approach the D.C. Circuit took in *Microsoft 1998* when it asked whether or not the overall benefit of integrating the products exceeded the cost to consumers of not being able to choose the individual component parts. Or, building on the D.C. Circuit's rejection in *Microsoft 2001* of per se treatment of tying as it pertains to operating systems, we would urge the U.S. Supreme Court to consider abandoning the façade of per se treatment of tying arrangements and replacing the tortured analysis currently used to determine whether there are two separate products with a straight forward application of the Rule of Reason.

442. *Kodak I*, 504 U.S. 451, 466–67 (1992).