



School of Law  
UNIVERSITY OF GEORGIA

Prepare.  
Connect.  
Lead.

# Journal of Intellectual Property Law

---

Volume 8 | Issue 1

Article 2

---

October 2000

## Network Effects in Technology Markets: Applying the Lessons of Intel and Microsoft to Future Clashes Between Antitrust and Intellectual Property

John T. Soma  
*University of Denver College of Law*

Kevin B. Davis  
*University of Denver College of Law*

Follow this and additional works at: <https://digitalcommons.law.uga.edu/jipl>



Part of the [Antitrust and Trade Regulation Commons](#), and the [Intellectual Property Law Commons](#)

---

### Recommended Citation

John T. Soma & Kevin B. Davis, *Network Effects in Technology Markets: Applying the Lessons of Intel and Microsoft to Future Clashes Between Antitrust and Intellectual Property*, 8 J. INTELL. PROP. L. 1 (2000).  
Available at: <https://digitalcommons.law.uga.edu/jipl/vol8/iss1/2>

This Article is brought to you for free and open access by Digital Commons @ University of Georgia School of Law. It has been accepted for inclusion in Journal of Intellectual Property Law by an authorized editor of Digital Commons @ University of Georgia School of Law. [Please share how you have benefited from this access](#) For more information, please contact [tstriepe@uga.edu](mailto:tstriepe@uga.edu).

ARTICLES

**NETWORK EFFECTS IN TECHNOLOGY  
MARKETS: APPLYING THE LESSONS OF *INTEL*  
AND *MICROSOFT* TO FUTURE CLASHES  
BETWEEN ANTITRUST AND INTELLECTUAL  
PROPERTY**

*John T. Soma\** & *Kevin B. Davis\*\**

TABLE OF CONTENTS

INTRODUCTION .....	3
I. APPLICABLE CONCEPTS .....	5
A. NETWORK EFFECTS .....	5
B. ANTITRUST .....	10
1. <i>Geographic and Product Markets</i> .....	10
2. <i>Market Share</i> .....	11
3. <i>Monopoly Power</i> .....	12

---

\* Professor of Law, University of Denver College of Law. B.A., Augustana College, 1970; J.D., University of Illinois, 1973; Ph.D. (Economics), University of Illinois, 1975.

\*\* J.D., University of Denver College of Law, 1999; M.A., American University, 1994; B.A., Michigan State University, 1991. Mr. Davis is an attorney with The Berkowitz Firm, in Denver, Colorado. Any views or opinions in this Article are solely those of the author and do not necessarily represent those of The Berkowitz Firm. The author gives all of his thanks to Lisa, whose contributions cannot be adequately acknowledged in a footnote. This Article is dedicated to Nathan.

C. INTELLECTUAL PROPERTY .....	15
1. <i>Copyright</i> .....	15
2. <i>Patent</i> .....	17
II. MICROSOFT .....	20
A. FACTUAL BACKGROUND .....	20
B. THE 1995 CONSENT DECREE .....	20
C. THE 1997 CONTEMPT ACTION .....	23
D. THE 1998 FEDERAL AND STATE ANTITRUST ACTIONS .....	24
1. <i>Tying</i> .....	25
2. <i>Exclusive Dealing</i> .....	28
3. <i>Modifications to Boot and Startup Screens</i> .....	30
E. REMEDIES .....	34
III. INTEL .....	35
A. FACTUAL BACKGROUND .....	35
B. THE FTC CONSENT DECREE .....	36
C. INTERGRAPH V. INTEL .....	38
1. <i>Market Definition</i> .....	40
2. <i>Essential Facility</i> .....	41
3. <i>Refusal to Deal</i> .....	42
4. <i>Leveraging</i> .....	43
5. <i>Intellectual Property Used to Restrain Trade</i> .....	43
IV. ANALYSIS .....	44
A. LESSONS OF THE CONSENT DECREES .....	44
1. <i>Limited Length of Licenses</i> .....	44
2. <i>Limited Scope of Licenses</i> .....	46
3. <i>No Intellectual Property Coercion</i> .....	46
B. EARLIER ANTITRUST INVOLVEMENT .....	48
C. ACTIVITY WITHIN FTC OVERSIGHT .....	48
1. <i>Licensing</i> .....	49
2. <i>Conduct</i> .....	49
3. <i>Structure</i> .....	49
V. CONCLUSION .....	50

*"At the border of intellectual property monopolies and antitrust markets lies a field of dissonance yet to be harmonized by statute or the Supreme Court."\**

## INTRODUCTION

It has often been stated that there is a tension between the goals of intellectual property and antitrust.<sup>1</sup> This is because intellectual property protections—such as copyright and patent—reward and encourage creation by giving the holder a limited monopoly over the creation.<sup>2</sup> Antitrust, however, is designed to combat monopolistic behavior. Nowhere is this tension more relevant than in technology markets.<sup>3</sup> This Article examines how technology markets that exhibit "network effects" are more prone to anticompetitive conduct, and thus more in need of antitrust regulations and protections.<sup>4</sup> The thesis of this Article is that because of the need for compatibility between different machines and programs, when a technology company achieves a thirty to forty percent level of market share, network effects will cause that company to rise, virtually automatically, to the eighty

\* *Image Technical Serv., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1217, 44 U.S.P.Q.2d (BNA) 1065, 1080 (9th Cir. 1997).

<sup>1</sup> See, e.g., Mark A. Glick & Duncan J. Cameron, *When Do Proprietary Aftermarkets Benefit Consumers?*, 67 ANTITRUST L.J. 357, 372 n.31 (1999) ("There has been an historical tension between antitrust laws and intellectual property laws."); David McGowan, *Networks and Intention in Antitrust and Intellectual Property*, 24 J. CORP. L. 485, 485 & n.1 (1999) ("The intersection of antitrust and intellectual property laws has always presented difficult issues."); Aaron Xavier Fellmeth, *Copyright Misuse and the Limits of the Intellectual Property Monopoly*, 6 J. INTEL. PROP. L. 1, 3 (1998) (stating that antitrust law and intellectual property law coexist "in a state of permanent tension").

<sup>2</sup> See, e.g., *Computer Assocs. Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693, 696 (2d Cir. 1992) [C]opyright law seeks to establish a delicate equilibrium. On the one hand, it affords protection to authors as an incentive to create, and, on the other, it must appropriately limit the extent of that protection so as to avoid the effects of monopolistic stagnation. In applying the federal act to new types of cases, courts must always keep this symmetry in mind.

*Id.*

<sup>3</sup> See Joshua A. Newberg, *The Emergence of Technology Markets in Antitrust Analysis*, ANTITRUST, Fall 1999, at 13.

<sup>4</sup> Network effects—also known as net effects or network externalities—occur in a computer environment when there is a benefit to a user from all (or as many as possible) users using the same operating system or program, thereby increasing the ease and ability to exchange work between users and the compatibility of one computer to another. See *United States v. Microsoft Corp.*, 147 F.3d 935, 939 (D.C. Cir. 1998). See generally Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 479, 481 (1998) (defining network effects as "markets in which the value that consumers place on a good increases as others use the good"). For a more complete discussion of network effects, see *infra* notes 9-44 and accompanying text.

to ninety percent market share level. Therefore, antitrust remedies need to be applied earlier, while the negative economic effects of monopolies can be most efficiently dealt with by the appropriate enforcement authorities. If a company voluntarily agrees to abide by behavior limits formulated by the Federal Trade Commission (FTC), the company will become immune from FTC action. Consent decrees between Microsoft and the Department of Justice (DOJ), and between Intel and the FTC, will serve as foundations for appropriate preventive actions.

Perhaps the two most influential technology companies behind the growth of computers are Microsoft and Intel. Both of these companies compete in markets where network effects exist, and both have been involved in significant antitrust actions involving their intellectual property and competitive conduct.<sup>5</sup> Microsoft initially consented with the DOJ, but subsequently has been in litigation with it.<sup>6</sup> Intel settled with the FTC by agreeing to conduct constraints dealing with licensing of patented microprocessors. Both companies hold approximately eighty to ninety percent market share in their respective fields.<sup>7</sup> This Article proposes that the restrictions set forth in the previous *Microsoft* and *Intel* consent decrees should serve as the foundation for FTC policies designed to remedy antitrust violations at a very early stage, when a company achieves thirty to forty percent market share. This Article will draw from these decrees the relevant general principles that should be applied to technology companies in network economies that achieve the requisite market share. Companies that voluntarily adopt these controls will have specific limits on the scope of its intellectual property in certain products. Such companies would also be immune from antitrust actions. Non-complying companies would be subject

---

<sup>5</sup> Microsoft's intellectual property at issue is the copyright of certain parts of its Windows operating system. The intellectual property at issue for Intel involves patents on microprocessors.

<sup>6</sup> The FTC began an initial investigation of Microsoft in 1990, but the investigation was suspended after the Commission deadlocked 2-2 on whether to file a complaint. See *United States v. Microsoft Corp.*, 56 F.3d 1448, 1451 (D.C. Cir. 1995). Building on the extensive file compiled by the FTC, the Antitrust Division of the DOJ started its own investigation that led to the filing of a civil complaint. See *id.*

<sup>7</sup> See *Intergraph Corp. v. Intel Corp.*, 3 F. Supp. 2d 1255, 1260 (N.D. Ala. 1998), *vacated*, 195 F.3d 1346, 52 U.S.P.Q.2d (BNA) 1641 (Fed. Cir. 1999) (Intel's market share at eighty-five percent); *United States v. Microsoft Corp.*, 980 F. Supp. 537, 539 (D.D.C. 1997), *rev'd*, 147 F.3d 935 (D.C. Cir. 1998) (Microsoft's market share at approximately eighty percent).

to investigation and possible prosecution by the FTC, subject to a rule of reason analysis.<sup>8</sup>

Part I of this Article sets forth the relevant concepts that form the base of this inquiry, including the underlying principles of network economies, the goals of intellectual property and antitrust law, and the role of the government in applying them. Parts II and III set out and discuss the history and details of litigation involving Microsoft and Intel, respectively. Part IV analyzes how the government, by using the *Microsoft* and *Intel* consent decrees in light of network effects, can better prevent monopolies in the technology arena, and proposes a number of proactive steps within the FTC's authority to limit anticompetitive harms.

## I. APPLICABLE CONCEPTS

### A. NETWORK EFFECTS

Network effects occur in a market when the benefit to one person from using a product increases as more people use the product.<sup>9</sup> This theory is significant in several respects, one is that it conflicts with the general economic principle that in perfectly competitive markets, goods are sold at their marginal cost.<sup>10</sup> Additionally, network effects increase the potential for monopolies in an industry.<sup>11</sup> The current debate is how (or whether) the theory of network effects should be applied to relevant fields such as antitrust, copyright, and patent.<sup>12</sup>

<sup>8</sup> See *infra* notes 180-82 and accompanying text.

<sup>9</sup> See Lemley & McGowan, *supra* note 4, at 483. For example, the benefit of having a fax machine is small until a significant number of others have one.

<sup>10</sup> The marginal cost is "the cost that a firm incurs in the production of one additional unit of output." *Rebel Oil Co. v. Atlantic Richfield Co.*, 51 F.3d 1421, 1431 n.1 (9th Cir. 1995). "[P]ricing below marginal cost is socially wasteful because the seller produces goods at a cost which is greater than their value to consumers." *Id.* at 1444 n.15. There is a positive relationship between increased marginal costs and diminishing returns. See *LucasArts Entertainment Co. v. Humongous Entertainment Co.*, 870 F. Supp. 285, 289 (N.D. Cal. 1993); see also Alan J. Cox, *Intellectual Property Market Definition and Antitrust in High Technology Industries*, in *INTELLECTUAL PROPERTY ANTITRUST 1999*, at 117, 140 (PLI Pats., Copyright, Trademarks, & Literary Prop. Course Handbook Series No. 566, 1999) (citing factors that complicate antitrust analysis in cases involving high technology industries).

<sup>11</sup> See *United States v. Microsoft Corp.*, 147 F.3d 935, 938 (D.C. Cir. 1998); Stephen A. Siegel, *Understanding the Nineteenth Century Contract Clause: The Role of the Property-Privilege Distinction and "Takings" Clause Jurisprudence*, 60 S. CAL. L. REV. 1, 104-105 n.497 (1986).

<sup>12</sup> See Lemley & McGowan, *supra* note 4, at 485; John E. Lopatka & William H. Page, *Antitrust on Internet Time: Microsoft and the Law of Economics and Exclusion*, 7 SUP. CT. ECON. REV. 157, 160 (1999).

The Department of Justice has taken the position, in its action against Microsoft, that the nature of the software industry makes it prone to monopolies.<sup>13</sup> The cause is a combination of factors, such as network effects, barriers to market entry, and the speed at which the industry advances.<sup>14</sup> Microsoft argued that it is precisely because of the rapid rate at which a product can become obsolete, and thus replaced by a competitor's product, that the market needs to be left to its own devices.<sup>15</sup> These competing views illustrate the tension in technology markets between antitrust and intellectual property, where the technology forges ahead while the government attempts to keep markets competitive.

Only a few courts in antitrust cases have recognized the existence of network effects, and attempted to factor it into their analysis. In *Bristol Technology, Inc. v. Microsoft Corp.*,<sup>16</sup> plaintiff Bristol sought a preliminary injunction requiring Microsoft to provide prerelease information to Bristol, in conformity with a licensing agreement that the parties had previously entered into. Bristol had developed a program that allowed Windows based programs to run on a UNIX operating system.<sup>17</sup> The programs were designed for Microsoft's technical workstation and departmental server markets, known as Windows NT (as opposed to Windows 95 or 98). Bristol obtained the necessary source code by reverse engineering the Windows NT operating system.<sup>18</sup> Microsoft contacted Bristol, and the parties entered into an agreement under which Bristol received the source code for upcoming NT operating systems in advance of the commercial release.<sup>19</sup> However, during negotiations for the renewal of the licensing agreement, Microsoft informed Bristol that it would no longer receive the entirety of the NT source code, and that Microsoft's royalties on the sale of Bristol products would increase by four hundred percent.<sup>20</sup>

---

<sup>13</sup> See Lopatka & Page, *supra* note 12, at 160.

<sup>14</sup> The product cycle is generally estimated at six months, but in some cases, can be as little as forty-five days. See *Intergraph Corp. v. Intel Corp.*, 3 F. Supp. 2d 1255, 1264 n.26 (N.D. Ala. 1998), *vacated*, 195 F.3d 1346, 52 U.S.P.Q.2d (BNA) 1641 (Fed. Cir. 1999) (discussing the product cycle of a computer chip).

<sup>15</sup> See Lopatka & Page, *supra* note 12, at 160.

<sup>16</sup> 42 F. Supp. 2d 153 (D. Conn. 1998).

<sup>17</sup> See *id.* at 158.

<sup>18</sup> See *id.*

<sup>19</sup> See *id.*

<sup>20</sup> See *id.* at 159.

In determining whether Bristol had met the requisites for a preliminary injunction, the court determined that Microsoft's market share in 1997 was "28% of new shipments in the technical workstation operating system market and 44% of new shipments in the departmental server market. The projected percentages for 1998 [were] 43% and 49%, respectively."<sup>21</sup> Microsoft's twenty-eight percent market share in technical workstations precluded a finding that Bristol had shown a clear likelihood that it could, at trial, show that Microsoft had monopoly power. However, because Microsoft's forty-four percent market share in the departmental server market fell in the forty to seventy percent range, wherein a finding of monopoly is possible, the court determined that a market analysis for this product was appropriate.<sup>22</sup>

The court found that Microsoft's market share had grown from one percent in 1993 to nearly fifty percent in 1998.<sup>23</sup> This, despite what the court acknowledged were high barriers to entry.<sup>24</sup> Most significantly, the court recognized that "there is a 'network' effect involved with operating system markets which increases the barriers to entry."<sup>25</sup> Additionally, network effects increase the costs of a user changing to a different standard. Given the existence of network effects, the court expressed interest in finding that monopoly power might be shown, even with a market share of less than fifty percent.<sup>26</sup> "However, given the standard that this court must apply in the context of this preliminary injunction motion, it cannot conclude that Bristol has made a clear showing of monopoly power in this market with a market share below fifty percent."<sup>27</sup> Therefore, the court denied Bristol's motion for a preliminary injunction, and set the case for trial. The jury found for Microsoft on all claims, save one. The jury found that Microsoft violated a state law that barred deceptive and misleading statements in business affairs, and awarded Bristol damages of one dollar.<sup>28</sup>

---

<sup>21</sup> *Bristol Tech.*, 42 F. Supp. 2d at 169. Microsoft did not contest the numbers.

<sup>22</sup> *See id.*

<sup>23</sup> *See id.* This was attributable in part to the \$270 million Microsoft spent on developing the latest version, and the 2,000-person staff devoted to the project. *See id.* at 169 n.38.

<sup>24</sup> *See id.* at 169.

<sup>25</sup> *Id.* at 169.

<sup>26</sup> *See Bristol Tech.*, 42 F. Supp. 2d at 169.

<sup>27</sup> *Id.*

<sup>28</sup> *See* Rajiv Chandrasekaran, *Conn. Ruling Favors Microsoft; Antitrust Verdict Could Discourage Similar Suits, Experts Say*, WASH. POST, July 17, 1999, at E1. The judge later raised the amount to 3.73 million in attorneys' fees and 1 million in punitive damages. The parties then reached a negotiated



In a suit less favorable to Microsoft, the existence of network effects played a role in the finding that Microsoft possessed monopoly power in the operating systems market.<sup>29</sup> The court stated that consumers in the market were influenced by positive network effects, where “the attractiveness of a product increases with the number of people using it.”<sup>30</sup> While this caused a “positive feedback loop” for Microsoft, it also caused a “vicious cycle” for Microsoft’s competitors because Microsoft’s large installed base of consumers compelled the writing of software first and foremost to be compatible with Windows.<sup>31</sup> This further leads to a “collective-action problem” because software vendors wait until a system becomes established before writing applications for it.<sup>32</sup> However, if no one creates applications, the system will not attract the necessary users to become a viable consumer option.<sup>33</sup>

The court’s incorporation of the role of network effects in its findings is significant for several reasons. First, the court recognized that the existence of network effects both helps and hurts consumers. Consumers benefit from having the creative and growth forces of software development centered around one standard because, in theory, a better product will exist. For instance, problems with compatibility between files transferred from one computer to another should be reduced. Additionally, businesses benefit from having to invest fewer resources into training people for different programs. It is likely that an employee’s home Windows operating system, with its word processing, spreadsheet, and additional applications is virtually identical to the one used in the office.

However, consumers are also harmed by network effects. Because of the focus on one company’s product, other potentially superior products have a difficult time reaching the market. Especially in the computer industry, where the barriers to entry are extremely high, network effects tend to eliminate potential competitors. This, in turn, reduces the incentives for creators of new programs, which reinforces the dominant market holder’s position.

---

settlement. Jennifer DiSabatino, *Microsoft settles unfair trade practices lawsuit* (Feb. 21, 2001) <[http://www.computerworld.com/cwi/story/0,1199,NAV47\\_STO57878,00.html](http://www.computerworld.com/cwi/story/0,1199,NAV47_STO57878,00.html)>.

<sup>29</sup> See *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9, 19, para. 33 (D.D.C. 1999); see also *infra* Part II.

<sup>30</sup> *Microsoft*, 84 F. Supp. 2d at 20, para. 39.

<sup>31</sup> See *id.* at 20, paras. 39-40.

<sup>32</sup> See *id.* at 21, para. 41.

<sup>33</sup> See *id.* at 20-21, para. 41.

A court's recognition of the existence of network effects does not mean that a defendant will lose. In determining whether Microsoft violated a consent decree,<sup>34</sup> the Court of Appeals for the District of Columbia Circuit discussed the economics of the computer industry in general.<sup>35</sup> When IBM, previously the leader in the home computer market, chose to install a Microsoft operating system on its computers, Microsoft obtained an "installed base" on millions of machines.<sup>36</sup> This base, the court noted, "created exceptional risks of monopoly," due in part to a characteristic of the software industry—network effects.<sup>37</sup> The acknowledgment that network effects are a characteristic of the software industry, and that they tend to positively increase the possibility of monopolies, underscores the need for a shift in the application of antitrust enforcement.

Network effects, however, are not limited to the software industry. In *Money Station, Inc. v. Board of Governors of the Federal Reserve System*,<sup>38</sup> the issue was whether Electronic Payment Services (EPS), the nation's largest automated teller machine (ATM) network, would be able to purchase a smaller ATM network.<sup>39</sup> Money Station was appealing the Board of Governors decision to allow the purchase.<sup>40</sup> Money Station argued that the purchase would increase EPS's dominant market position, and preclude viable competition.<sup>41</sup> If the transaction was approved, EPS's market share would rise from thirty-one percent to forty-five percent.<sup>42</sup> The Board of Governors had stated that allowing EPS to gain a significant market share was not necessarily adverse to the public interest, and that in the specific economy, network effects worked to promote the creation of a single market.<sup>43</sup> The court disagreed with the Board's conclusion that potential consumer harm was not evident.<sup>44</sup>

---

<sup>34</sup> See *infra* notes 115-36 and accompanying text for discussion of consent decree.

<sup>35</sup> See *United States v. Microsoft Corp.*, 147 F.3d 935, 939 (D.C. Cir. 1998).

<sup>36</sup> See *id.*

<sup>37</sup> *Id.* The court refers to the phenomenon as "network externalities," which is synonymous with network effects. See *supra* note 4 (describing network effects).

<sup>38</sup> 81 F.3d 1128 (D.C. Cir. 1996), *vacated en banc*, 94 F.3d 658 (D.C. Cir. 1996).

<sup>39</sup> See *id.* at 1129. EPS operated approximately 13,000 ATMs, compared to Money Station's 900. See *id.* at 1130.

<sup>40</sup> See *id.* at 1129.

<sup>41</sup> See *id.* at 1130.

<sup>42</sup> See *id.* at 1130 n.1. The geographic markets where the competition occurred were Ohio and Pennsylvania. See *id.* at 1130.

<sup>43</sup> See *Money Station*, 81 F.3d at 1133.

<sup>44</sup> See *id.* at 1133-34.

## B. ANTITRUST

Monopoly is "the power to control prices in the relevant market or to exclude competitors."<sup>45</sup> Having a monopoly is not *per se* illegal; only when monopoly power is combined with anticompetitive conduct are the antitrust laws implicated.<sup>46</sup> The focal point of antitrust law is the Sherman Act, specifically sections 1 and 2, which prohibit "efforts both to restrain trade by combination or conspiracy and the acquisition or maintenance of a monopoly by exclusionary conduct."<sup>47</sup> A section 1 violation requires "that there be a 'contract, combination . . . or conspiracy' between the manufacturer and other distributors in order to establish a violation. Independent action is not proscribed."<sup>48</sup> A section 2 violation requires "(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."<sup>49</sup>

1. *Geographic and Product Markets.* In order for a company to be liable for anticompetitive conduct, a determination of competition in the same geographic and product markets is necessary.<sup>50</sup> A geographic market is the area where competition occurs and where buyers can turn for alternative

<sup>45</sup> Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585, 596 n.20 (1985).

<sup>46</sup> See Intergraph Corp. v. Intel Corp., 195 F.3d 1346, 1350 (Fed. Cir. 1999). The Justice Department is investigating what could be another potentially high profile case, music television network (MTV). The investigation is reported to center on alleged anticompetitive conduct by MTV involving the airing of music videos. Interestingly, one source stated that the investigation has more to do with the Internet than television, because the music industry fears that it will lose profits once videos can be streamed to a computer. See Paul Farhi, *Justice Probing MTV's Power; Investigators Eye Viacom Purchases*, WASH. POST, Dec. 16, 1999, at E1.

<sup>47</sup> Image Technical Servs., Inc. v. Eastman Kodak Co., 125 F.3d 1195, 1214 (9th Cir. 1997).

<sup>48</sup> Monsanto Co. v. Spray-Rite Serv. Corp., 465 U.S. 752, 761 (1984) (citations omitted). Section 1 states, in part, 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 hereby declared to be illegal." 15 U.S.C. § 1 (1994).

<sup>49</sup> United States v. Grinnell Corp., 384 U.S. 563, 570-71 (1966); see also Wigod v. Chicago Mercantile Exch., 981 F.2d 1510, 1520 (7th Cir. 1992) (defining monopoly requirements as "a showing of possession of monopoly power in the relevant market and the willful acquisition or maintenance of that power"). Section 2 states, in part, that "[e]very person who shall 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, or with foreign nations, shall be deemed guilty of a felony . . ." 15 U.S.C. § 2 (1994).

<sup>50</sup> See Robin Cooper Feldman, *Defensive Leveraging in Antitrust*, 87 GEO. L.J. 2079, 2107 n.142 (1999).

supply sources.<sup>51</sup> The scope of the market will be determined by the product. For example, the geographic market of a computer chip, because it is easy to ship and in high demand, may be defined as worldwide. On the contrary, the product market for cement or concrete is considerably smaller, given shipping costs and transportation constraints, and may be defined as metropolitan or regional.<sup>52</sup> A variety of factors are often considered in determining the market, such as a buyer's willingness to travel, shipping and sales patterns, price correlations, and barriers to entry.<sup>53</sup>

2. *Market Share.* Generally, the modern view is that a market share of sixty to sixty-five percent creates a prima facie presumption of a probable monopoly.<sup>54</sup> Market share may infer market power,<sup>55</sup> thus leading to a finding of a monopoly.<sup>56</sup> While there is no bright-line test for determining when high market share equals monopoly power, some general guidelines exist. Traditionally, the starting point came from Judge Learned Hand, who stated, in 1945, that while ninety percent market share is enough to constitute a monopoly, "it is doubtful whether sixty or sixty-four percent

---

<sup>51</sup> See *Morgan, Strand, Wheeler & Biggs v. Radiology, Ltd.*, 924 F.2d 1484, 1490 (9th Cir. 1991); see also *Rebel Oil Co. v. Atlantic Richfield Co.*, 51 F.3d 1421, 1434 (9th Cir. 1995) (defining the relevant market as "the group of sellers or producers who have the 'actual or potential ability to deprive each other of significant levels of business' ") (citation omitted).

<sup>52</sup> See, e.g., *Missouri Portland Cement Co. v. Cargill, Inc.*, 498 F.2d 851, 858 (2d Cir. 1974) (stating that metropolitan areas are the proper geographical markets for ready-mixed cement, while regional areas are the proper markets for portland cement).

<sup>53</sup> See Kathryn M. Fenton, *Antitrust: The Significance of Microsoft and Intel and Future Competition in Cyberspace*, in 19TH ANNUAL INSTITUTE ON COMPUTER LAW, at 917, 923-933 (PLI Pats., Copyrights, Trademarks, & Literary Prop. Course Handbook Series No. 547, 1999).

<sup>54</sup> See *American Tobacco Co. v. United States*, 328 U.S. 781, 797 (1946) (stating that the jury could have found from the actual operation of the petitioners, which had about sixty-eight percent market share, that there was an intent to monopolize).

<sup>55</sup> See *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 469 n.15 (1992).

A common misconception has been that a patent or copyright, a high market share, or a unique product that competitors are not able to offer suffices to demonstrate market power. While each of these three factors might help to give market power to a seller, it is also possible that a seller in these situations will have no market power: for example, a patent holder has no market power in any relevant sense if there are close substitutes for the patented product. Similarly, a high market share indicates market power only if the market is properly defined to include all reasonable substitutes for the product.

*Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 37-38 n. 7 (1984) (O'Connor, J., concurring).

<sup>56</sup> See William M. Landes & Richard A. Posner, *Market Power in Antitrust Case*, 94 HARV. L. REV. 937, 937 (1981) (stating that a finding of monopolization in violation of section 2 of the Sherman Act requires an initial determination that defendant has a high degree of market power).

would be enough; and certainly thirty-three percent is not.”<sup>57</sup> “In deciding when market share evidences monopoly power in a particular market, courts have looked to, *inter alia*, the relative size and strength of the defendant and its competition, changes in the defendant’s market share, consumer demand, and barriers to entry.”<sup>58</sup> “Without a definition of the relevant market, it is impossible to determine market share.”<sup>59</sup>

3. *Monopoly Power.* Monopoly power, also referred to as “market power,” is a required element of a section 2 Sherman Act violation.<sup>60</sup> To prevail, a showing of monopoly power in the relevant market and willful acquisition or maintenance of that power is required.<sup>61</sup> Monopoly power is provable “by either direct or circumstantial evidence.”<sup>62</sup> Because direct evidence of monopolistic conduct—controlling prices or excluding competition—is generally not available,<sup>63</sup> circumstantial evidence is more commonly used.<sup>64</sup> To show monopoly power through circumstantial evidence, “a plaintiff must: ‘(1) define the relevant market, (2) show that the defendant owns a dominant share of that market, and (3) show that there are significant barriers to entry and show that existing competitors lack the capacity to increase their output in the short run.’”<sup>65</sup>

---

<sup>57</sup> *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 424, 65 U.S.P.Q. (BNA) 6, 14 (2d Cir. 1945). These guidelines are still being applied. For example, the Court of Appeals for the Fourth Circuit has set forth the following:

(1) claims of less than 30% market shares should presumptively be rejected; (2) claims involving between 30% and 50% shares should usually be rejected, except when conduct is very likely to achieve monopoly or when conduct is invidious, but not so much so as to make the defendant per se liable; (3) claims involving greater than 50% share should be treated as attempts at monopolization when the other elements for attempted monopolization are also satisfied.

*M & M Med. Supplies & Serv., Inc. v. Pleasant Valley Hosp., Inc.*, 981 F.2d 160, 168 (4th Cir. 1992) (en banc).

<sup>58</sup> *Bristol Tech., Inc. v. Microsoft Corp.*, 42 F. Supp. 2d 153, 169 (D. Conn. 1998).

<sup>59</sup> *Rebel Oil Co. v. Atlantic Richfield Co.*, 51 F.3d 1421, 1434 (9th Cir. 1995).

<sup>60</sup> *See Image Technical Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1202 (9th Cir. 1997).

<sup>61</sup> *See id.* at 1202.

<sup>62</sup> *Id.*

<sup>63</sup> *See Robert H. Lande & Sturgis M. Sobin, Reverse Engineering of Computer Software and U.S. Antitrust Law*, 9 HARV. J.L. & TECH. 237, 257 (1996) (discussing factors to determine whether market power is present).

<sup>64</sup> *See Rebel Oil*, 51 F.3d at 1435.

<sup>65</sup> *Image Technical Servs.*, 125 F.3d at 1202 (quoting *Rebel Oil Co. v. Atlantic Richfield Co.*, 51 F.3d 1421, 1434 (9th Cir. 1995)).

For example, in *Image Technical Services, Inc. v. Eastman Kodak Co.*,<sup>66</sup> Kodak was sued by eleven independent service organizations (ISOs) for Sherman Act violations.<sup>67</sup> Plaintiffs serviced Kodak's photocopy and microfiche machines until Kodak, sensing that its own market for service was shrinking, refused to sell plaintiffs the required replacement parts.<sup>68</sup> The suit was initiated in 1987, on the grounds that Kodak violated section 1 of the Sherman Act by restricting the sale of replacement parts to plaintiffs, and violated section 2 through its attempt to monopolize the market for repairs to its machines.<sup>69</sup> The district court granted summary judgement to Kodak, but the Court of Appeals for the Ninth Circuit reversed.<sup>70</sup> In 1992 the Supreme Court granted certiorari to determine principally "whether a defendant's lack of market power in the primary equipment market precludes—as a matter of law—the possibility of market power in derivative aftermarkets."<sup>71</sup> Upon remand, plaintiffs withdrew their section 1 claims, and the jury found for plaintiffs on the monopolization and attempted monopolization claims regarding Kodak's parts and service markets. The district court entered an injunction requiring Kodak to sell its parts to plaintiffs with "reasonable and nondiscriminatory terms and prices."<sup>72</sup>

The circuit court concluded that Kodak had monopoly power and used exclusionary conduct.<sup>73</sup> The court then set out to determine whether legitimate business justifications supported Kodak's actions.<sup>74</sup> Kodak argued that its valid copyrights and patents on its parts provided a legitimate business justification for restricting plaintiffs' access.<sup>75</sup> In a matter of first impression, the court analyzed "the significance of a monopolist's unilateral

---

<sup>66</sup> *Id.* at 1195.

<sup>67</sup> *See id.* at 1200.

<sup>68</sup> *See id.* at 1200-02.

<sup>69</sup> *See Image Technical Servs., Inc. v. Eastman Kodak Co.*, No. C-87-1686-WWS, 1988 WL 156332, at \*1, \*3 (N.D. Cal. Apr. 18, 1988), *rev'd*, 903 F.2d 612 (9th Cir. 1990), *aff'd*, 504 U.S. 451 (1992).

<sup>70</sup> *See Image Technical Serv., Inc. v. Eastman Kodak Co.*, 903 F.2d 612, 614 (9th Cir. 1990).

<sup>71</sup> *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 455 (1992). The Supreme Court found that plaintiffs did not show that Kodak had monopoly power in the photocopy and microfiche machine markets. *See id.* at 471. However, the Court held that "there is no immutable physical law—'no basic economic reality'—insisting that competition in the equipment market cannot coexist with market power in the aftermarkets." *Id.*

<sup>72</sup> *Image Technical Servs.*, 125 F.3d at 1201.

<sup>73</sup> *See id.* at 1212.

<sup>74</sup> *See id.*

<sup>75</sup> *See id.* Kodak held 220 patents for 65 parts, and the diagnostic and service software were protected by copyright. *See id.* at 1214.

refusal to sell or license a patented or copyrighted product in the context of a [section] 2 monopolization claim based upon monopoly leveraging.”<sup>76</sup>

The court reviewed the purposes of antitrust, patent, and copyright law,<sup>77</sup> noting the inherent tension among them.<sup>78</sup> “Two principles have emerged regarding the interplay between these laws: (1) neither patent nor copyright holders are immune from antitrust liability, and (2) patent and copyright holders may refuse to sell or license protected work.”<sup>79</sup> Intellectual property holders violate antitrust laws when they exploit their monopoly powers granted by the copyright and patent laws in an attempt to expand into new markets.<sup>80</sup> Nevertheless, the holders retain an “untrammelled right” to refuse to make their works publicly available.<sup>81</sup>

The specific context for the court involved whether Kodak’s refusal to provide its intellectual property, in the form of service parts, was a unilateral refusal to deal.<sup>82</sup> The court recognized that a unilateral refusal to deal intellectual property is “reserved from antitrust liability.”<sup>83</sup> Another court decreed that “[a] patent holder who lawfully acquires a patent cannot be held liable under section 2 of the Sherman Act for maintaining the monopoly power he lawfully acquired by refusing to license the patent to others.”<sup>84</sup> There are, however, limits to the right not to deal. For example, if the intellectual property was unlawfully acquired, or if an attempt is made to extend the limited monopoly beyond its scope, antitrust liability may attach.<sup>85</sup>

<sup>76</sup> *Id.* at 1214.

<sup>77</sup> See *Image Technical Servs.*, 125 F.3d at 1214-15.

<sup>78</sup> See *id.* at 1215.

Clearly the antitrust, copyright and patent laws both overlap and, in certain situations, seem to conflict. This is not a new revelation. We have previously noted the “obvious tension” between the patent and antitrust laws: “[o]ne body of law creates and protects monopoly power while the other seeks to proscribe it.” Similarly, tension exists between the antitrust and copyright laws.

*Id.* (citations omitted).

<sup>79</sup> *Id.* at 1215.

<sup>80</sup> See *id.*

<sup>81</sup> *Id.*; see also *Cataphote Co. v. DeSoto Chem. Coatings, Inc.*, 450 F.2d 769, 774 (9th Cir. 1971) (“A patentee has the untrammelled right to suppress his patent or to grant an exclusive or nonexclusive license.”).

<sup>82</sup> See *Image Technical Servs.*, 125 F.3d at 1215.

<sup>83</sup> *Id.* at 1216.

<sup>84</sup> *Miller Insituform, Inc. v. Insituform of N. Am., Inc.*, 830 F.2d 606, 609 (6th Cir. 1987).

<sup>85</sup> See *Image Technical Servs.*, 125 F.3d at 1216. See, e.g., *Mercoid Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661, 665 (1944) (holding that a patent holder may not secure a limited monopoly of an

### C. INTELLECTUAL PROPERTY

The disputes in which Microsoft and Intel became embroiled stemmed in part from each company's desire to control its own intellectual property. For Microsoft, this involved the copyrights in certain aspects of its software, and for Intel, its patents on microprocessors. Therefore, relevant background for each concept follows.

1. *Copyright.* The Constitution grants Congress the power "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."<sup>86</sup> The copyright holder has the right to reproduce, distribute, perform, and display the work, as well as the right to prepare derivative works based on the original.<sup>87</sup> These rights are tempered by various defenses and limitations, most notably fair use, which requires a court to evaluate an alleged infringer's use based on the purpose and character of the use, the nature of the copyrighted work, the amount of the work copied, and the market effect of the copying.<sup>88</sup> Generally, the fair use defense to copying

---

unpatented material used in the patented invention); *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1186 (1st Cir. 1994) (holding that although exercise of patent rights is a legitimate means of maintaining a monopoly, an unlawfully acquired patent does not encompass this right).

<sup>86</sup> U.S. CONST. art. I, § 8, cl. 8.

<sup>87</sup> See 17 U.S.C. § 106 (1994 & Supp. 1997). Section 106 states, in whole, that:

Subject to sections 107 through 120, the owner of copyright under this title has the exclusive rights to do and to authorize any of the following:

- (1) to reproduce the copyrighted work in copies or phonorecords;
- (2) to prepare derivative works based upon the copyrighted work;
- (3) to distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending;
- (4) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works, to perform the copyrighted work publicly;
- (5) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including the individual images of a motion picture or other audiovisual work, to display the copyrighted work publicly; and
- (6) in the case of sound recordings, to perform the copyrighted work publicly by means of a digital audio transmission.

*Id.*

<sup>88</sup> See 17 U.S.C. § 107 (1994). Section 107 states, in whole, that:

Notwithstanding the provisions of sections 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use),



computer programs has failed,<sup>89</sup> with notable exceptions occurring for reverse engineering.<sup>90</sup>

States may not grant rights that conflict<sup>91</sup> with the federal copyright<sup>92</sup> or patent<sup>93</sup> protection, although state trade secret law is not preempted by federal law.<sup>94</sup> Copyright protection applies to "original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device."<sup>95</sup> There is no dispute

scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include—

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit 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.

The fact that a work is unpublished shall not itself bar a finding of fair use if such finding is made upon consideration of all the above factors.

*Id.* For applications of fair use analysis, see *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 29 U.S.P.Q.2d (BNA) 1961 (1994); *Harper & Row, Publishers, Inc. v. Nation Enterprises*, 471 U.S. 539, 225 U.S.P.Q. (BNA) 1073 (1985); *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417, 220 U.S.P.Q. (BNA) 665 (1984).

<sup>89</sup> See, e.g., *Sega Enters. Ltd. v. MAPHIA*, 948 F. Supp. 923, 41 U.S.P.Q.2d (BNA) 1705 (N.D. Cal. 1996) (holding that fair use defense did not apply in a copyright infringement action brought by a video game manufacturer against operator of electronic bulletin board).

<sup>90</sup> See, e.g., *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1592, 24 U.S.P.Q.2d (BNA) 1561, 1574 (9th Cir. 1993) (concluding that disassembly is a fair use as a matter of law "where disassembly 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"); *Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc.*, 964 F.2d 965, 22 U.S.P.Q.2d (BNA) 1857 (9th Cir. 1992) (finding fair use where a manufacturer's device allowed players to manipulate features of copyrighted games).

<sup>91</sup> See *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 479, 181 U.S.P.Q. (BNA) 673, 677 (1974) ("The only limitation on the States is that in regulating the area of patents and copyrights they do not conflict with the operation of the laws in this area passed by Congress . . .").

<sup>92</sup> See *Goldstein v. California*, 412 U.S. 546, 560, 178 U.S.P.Q. (BNA) 129, 135 (1973) ("[U]nder the Constitution, the States have not relinquished all power to grant to authors the exclusive Right to their respective Writings.").

<sup>93</sup> See *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 152, 9 U.S.P.Q.2d (BNA) 1847, 1852 (1989) ("[S]tate regulation of intellectual property must yield to the extent that it clashes with the balance struck by Congress in our patent laws.").

<sup>94</sup> See *Kewanee Oil*, 416 U.S. at 474 (holding that "Ohio's law of trade secrets is not preempted by the patent laws of the United States").

<sup>95</sup> 17 U.S.C. § 102(a) (1994).

that computer programs are “works of authorship.”<sup>96</sup> However, copyright does not protect “any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.”<sup>97</sup> In other words, copyright does not protect the idea, but the expression of the idea.<sup>98</sup> Therefore, certain functional aspects of computer programs, such as menu commands and icons, have been found to be outside the scope of copyright protection.<sup>99</sup> The ability of Microsoft to obtain copyright protection for the startup screen of Windows 98 is significant to one aspect of Microsoft’s defense.

2. *Patent.* Patent protection is the strongest right in intellectual property.<sup>100</sup> The ability of the victor in a patent infringement suit to shut down the competitor’s infringing product is a potent weapon.<sup>101</sup> A patent may be obtained upon “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.”<sup>102</sup> The patent holder has the exclusive rights to make, use, offer to sell, or sell

<sup>96</sup> *Tandy Corp. v. Personal Micro Computers, Inc.*, 524 F. Supp. 171, 173, 214 U.S.P.Q. (BNA) 178, 179 (N.D. Cal. 1981).

<sup>97</sup> 17 U.S.C. § 102(b) (1994).

<sup>98</sup> See *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 556 (1985) (“No author may copyright his ideas or the facts he narrates.”); *New York Times Co. v. United States*, 403 U.S. 713, 726 n.\* (1971) (Brennan, J., concurring) (“[T]he copyright laws, of course, protect only the form of expression and not the ideas expressed.”).

<sup>99</sup> See *Lotus Dev. Corp. v. Borland Int’l, Inc.*, 49 F.3d 807, 816, 34 U.S.P.Q.2d (BNA) 1014, 1024 (1st Cir. 1995), *aff’d by an equally divided court*, 516 U.S. 233 (1996); *Apple Computer, Inc. v. Microsoft Corp.*, 35 F.3d 1435, 1443-44, 32 U.S.P.Q.2d (BNA) 1086, 1095 (9th Cir. 1994).

<sup>100</sup> The clearest example of the strength of a patent involves the dispute between Polaroid and Kodak over “instamatic” cameras. In 1976 Polaroid sued Kodak for patent infringement involving Kodak’s new instamatic cameras. See *Polaroid Corp. v. Eastman Kodak Co.*, 641 F. Supp. 828, 829, 228 U.S.P.Q. (BNA) 305, 305-06 (D. Mass. 1985). After a decade-long battle, and a court file over 18,000 pages, Kodak was found to have infringed seven of Polaroid’s patents involving instant photography, and Polaroid won a permanent injunction requiring Kodak to cease its production of instamatic cameras. See *Polaroid Corp. v. Eastman Kodak Co.*, 789 F.2d 1556, 1557-58, 229 U.S.P.Q. (BNA) 561, 561-62 (Fed. Cir. 1986). The costs of the camera exchange policy instituted by Kodak was estimated at over \$200 million, not including an additional \$100 million cost to close down its instant-photo division. See Janice Castro, *Instant Getaway; Kodak Loses a Patent Battle*, TIME, Jan. 20, 1986, at 43. As part of a settlement, Kodak paid Polaroid \$925 million, and withdrew its line of instamatic cameras. See Jonathan Weber, *Kodak Settles Polaroid Case for \$925 Million*, L.A. TIMES, July, 16, 1991 at 3.

<sup>101</sup> For a discussion on the requirements and standards in seeking preliminary emergency injunctive relief, see John G. Mills, *The Developing Standard for Irreparable Harm in Preliminary Injunctions to Prevent Patent Infringement*, 81 J. PAT. & TRADEMARK OFF. SOC’Y 51, 52-54 (1999).

<sup>102</sup> 35 U.S.C. § 101 (1994).

the patented invention.<sup>103</sup> Along with the requirement that the subject of the patent be "useful,"<sup>104</sup> the invention must be "new"<sup>105</sup> and "nonobvious."<sup>106</sup>

Patent infringement, previously a significant issue in the *Intel* case,<sup>107</sup> is a two step analysis. The first step is to determine "the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the

<sup>103</sup> See 35 U.S.C. § 271(a) (1994).

<sup>104</sup> See *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1571, 24 U.S.P.Q.2d (BNA) 1401, 1412 (Fed. Cir. 1992) (stating that "[t]o violate § 101 the claimed device must be totally incapable of achieving a useful result").

<sup>105</sup> Section 102 of the Patent Act bars patentability of any invention that was known or used by another, on sale or in use more than one year before the patent application was filed, or previously described in a printed publication. See 35 U.S.C. § 102 (1994 & Supp. 2000).

<sup>106</sup> Section 103 of the Patent Act bars patentability of any invention that would have been obvious to a person having ordinary skill in the art to which the patent pertains. See 35 U.S.C. § 103 (1994).

<sup>107</sup> *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346 (Fed. Cir. 1999); see *infra* Part III (C). The patents at issue involved semiconductors known collectively as the "Clipper" patents. One aspect of Intel's defense to Intergraph's patent infringement claims was that Intel held a valid license to use the patented semiconductor technology in question on the basis of a general licensing agreement executed before the Clipper patents were issued. See *Intergraph Corp. v. Intel Corp.*, No. CV 97-N-3023-NE (N.D. Ala. June 4, 1999), available at <<http://www.intergraph.com/intel/integra.htm>>.

Intel pointed to a 1976 agreement with National Semiconductor Corporation (NSC) for licenses to national patents and national patent applications. In 1987, Fairchild, the developer of the Clipper, became a wholly owned subsidiary of NSC. At the same time, Intergraph purchased the Advanced Processor Division of Fairchild, including the applications for the Clipper patents, which were issued at different times between 1989 and 1992.

The court initially rejected Intel's argument that valid licenses could have been issued by NSC because NSC had no legal authority to do so, as NSC and Fairchild were legally distinct corporations. The court stated that:

A basic tenet of the law of corporations . . . is that a corporation is a separate legal entity which can possess its own property and hold legal sway over that property. It is axiomatic that owning stock in a corporation is not the equivalent of owning that corporation's property, and a shareholder generally cannot dispose of a corporation's property without duly authorized action by the corporate management.

*Id.* (citations omitted). Thus, NSC's status as a shareholder did not give it the ability to license Fairchild's patented microprocessors.

However, upon Intel's motion for reconsideration, the court reversed itself and granted Intel's motion for summary judgment on the patent licensing issue. See *Intergraph Corp. v. Intel Corp.*, No. CV-97-N-3023-NE, 1999 U.S. Dist. LEXIS 15776, at \*4 (N.D. Ala. Oct. 12, 1999). The court "initially gave too little weight to Intel's argument that it acquired control of the Clipper patents when NSC purchased all of Fairchild's stock." *Id.* In its pending appeal of the district court's ruling, Intergraph described the court's decision as "devoid of any substantive reasoning or explanation." See Brief for Appellate at 14, *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346 (Fed. Cir. 1999) (No. 90567), available at <<http://www.intergraph.com/intel/intergraph%20brief.htm>>.

As of this writing, the patent infringement issues have been decided in Intel's favor. Later, the court found for Intel for the remaining antitrust claims. See *Intergraph Corp. v. Intel Corp.*, 88 F. Supp. 2d 1288, 54 U.S.P.Q.2d (BNA) 1431 (N.D. Ala. 2000).

properly construed claims to the device accused of infringing.”<sup>108</sup> In patent infringement litigation, it is common for a defendant to raise counterclaims involving antitrust theories such as fraudulent patent procurement, bad faith, or sham litigation.<sup>109</sup> The defense of “patent misuse” has been used increasingly in the intellectual property/antitrust arena, where the patent holder has extended the patent’s scope to obtain or coerce an unfair commercial advantage.<sup>110</sup> Common examples of this conduct include “using a patent which enjoys market power in the relevant market to restrain competition in an unpatented product or employing the patent beyond its [twenty]-year term.”<sup>111</sup>

Misuse is rooted in “the equitable doctrine of unclean hands.”<sup>112</sup> A violation for misuse is broader than an antitrust violation. Misuse can “arise when the conditions of antitrust violation are not met.”<sup>113</sup> The focus is whether, by using the rights granted by the patent, the holder has “impermissibly broadened the scope of the patent.”<sup>114</sup>

---

<sup>108</sup> *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc) (citations omitted). The first step is commonly known as claim construction or interpretation. *Id.*

<sup>109</sup> See Teague I. Donahey, *Antitrust Counterclaims in Patent Infringement Litigation: Clarifying the Supreme Court’s Enigmatic Mercoid Decision*, 81 J. PAT. & TRADEMARK OFF. SOC’Y 493, 495-96 (1999); see also James Gould & James Langenfeld, *Antitrust and Intellectual Property: Landing on Patent Avenue in the Game of Monopoly*, 37 IDEA 449, 452-53 (1997) (discussing the role of antitrust law in a patent case).

<sup>110</sup> See *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1372, 48 U.S.P.Q.2d (BNA) 1225, 1249 (Fed. Cir. 1998); see also *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 24 U.S.P.Q.2d (BNA) 1173 (Fed. Cir. 1992) (holding that it is permissible to prohibit a buyer from receiving a device if a manufacturer’s restriction was reasonable within the patent grant).

<sup>111</sup> *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1426, 43 U.S.P.Q.2d (BNA) 1896, 1902 (Fed. Cir. 1997) (citation omitted). In 1995, the Uruguay Round Agreement Act changed the patent term from seventeen to twenty years. See 35 U.S.C. § 154(a)(2) (1994). This change made the United States consistent with international standards. The patent term starts from the time the patent application is filed, rather than when it is issued, as previously occurred. Starting the clock when the application is filed is intended to discourage applicants from delaying the issuance process, in order “to claim previously disclosed but unclaimed features of an invention many years after the filing of the original patent application.” *Ricoh Co. v. Nashua Corp.*, 1999 WL 88969, at \*3 n.3 (Fed. Cir. Feb. 18, 1999), *cert. denied*, 528 U.S. 815 (1999). These delayed patents are commonly referred to as “submarine patents.” *Id.*

<sup>112</sup> *C.R. Bard*, 157 F.3d at 1372.

<sup>113</sup> *Id.*

<sup>114</sup> *Id.* Intergraph ceased development of its own microprocessors based on alleged promises by Intel to engage in a mutually beneficial relationship. Intel could be liable for patent misuse if a court finds that by breaking its promises, competition was reduced. See James C. Burling et al., *The Antitrust Duty to Deal and Intellectual Property Rights*, 24 J. CORP. L. 527, 543 n.137 (1999).

## II. MICROSOFT

### A. FACTUAL BACKGROUND

Microsoft has been accused of, and investigated for, a number of actions dating back to 1990.<sup>115</sup> In general, its licenses were thought to be impermissibly restrictive because of their (1) extended duration, (2) limits on licensee conduct, and (3) royalty structure. Furthermore, its conduct was alleged to be anticompetitive by: (1) restraining competition, (2) tying products together, (3) formulating exclusive dealing arrangements, and (4) using exclusionary and predatory practices.<sup>116</sup>

### B. THE 1995 CONSENT DECREE

In 1994, the DOJ initiated action against Microsoft for antitrust violations. The focus of the action involved licensing agreements between Microsoft and various original equipment manufacturers (OEMs).<sup>117</sup> In 1995, the parties entered into a consent decree,<sup>118</sup> which the district court refused to approve.<sup>119</sup> Both parties appealed, and the court of appeals remanded with "instructions to enter the proposed decree."<sup>120</sup>

<sup>115</sup> See *United States v. Microsoft Corp.*, 56 F.3d 1448, 1451 (D.C. Cir. 1995); see also *supra* note 6 (describing the initiation of the FTC and DOJ investigations of Microsoft).

<sup>116</sup> See *id.*

<sup>117</sup> See *id.* An OEM makes the computer, and will then generally include an operating system and additional software (i.e., word-processing programs, spreadsheets, or games) which the OEM has licensed from a software developer, such as Microsoft or Novel.

<sup>118</sup> See *United States v. Microsoft Corp.*, No. CIV. A. 94-1564, 1995 WL 505998, \*1 (D.D.C. Aug. 21, 1995).

<sup>119</sup> See *United States v. Microsoft Corp.*, 159 F.R.D. 318, 338 (D.D.C. 1995) (concluding that the consent decree was not in the public interest, as required by the Tunney Act, 15 U.S.C. § 16(e) (1994), because: (1) the government did not provide information needed for the court to make the "proper public interest determination," (2) the scope was too narrow, (3) the decree did not address specific anticompetitive activity in which the court was interested, and (4) the court did not find the compliance and enforcement mechanisms "satisfactory"), *rev'd*, 56 F.3d 1448 (D.C. Cir. 1995).

<sup>120</sup> *Microsoft*, 56 F.3d at 1462. Although the court of appeals proffered "due respect" to the district court, see *id.* at 1459, the tone of the opinion tells a different story, and the court granted Microsoft's request to remand to a different district court judge, see *id.* at 1465.

We are deeply troubled by several aspects of the proceedings in district court. . . . We are similarly distressed by the district judge's decision to allow the Doe Companies to proceed anonymously. We are not aware of any case in which a plaintiff was allowed to sue a defendant and still remain anonymous to that defendant. . . . We are

The consent decree entered into by Microsoft and the United States was the result of a four-year investigation into Microsoft's practices.<sup>121</sup> The decree was intended to address anticompetitive practices, particularly in licensing agreements.<sup>122</sup> Its significance here is for the broad principles it sets forth, for these principles can serve as mandatory requirements to be imposed upon companies in network economies when market share reaches the forty percent level. Because it can be expected that a company that operates in a market where network effects are prevalent will, upon capture of a forty percent market share, become a monopoly, these restrictions are necessary to ensure competition and prevent antitrust violations. In this sense, this measure can be seen as preventive, for the goal is to inhibit behavior damaging to markets.<sup>123</sup> Although some aspects of the consent decree are applicable only to the specific facts of the *Microsoft* case, the decree also contains relatively wide-ranging prohibitions. Those prohibitions which can serve as foundations for broad, industry-wide regulations, shall be set forth.

The decree applied to "covered products," which was defined as the binary code of the relevant products, and any successor or replacement versions.<sup>124</sup> It also included successor or replacement versions of products that were, at that time, part of the operating system, and which might be unbundled in the future.<sup>125</sup> In order to lessen Microsoft's grip on the market, the decree required that a licensing agreement for a covered product

---

also concerned by the district judge's acceptance of *ex parte* submissions. . . . Finally, we note that the district judge made several comments during the proceedings which evidenced his distrust of Microsoft's lawyers and his generally poor view of Microsoft's practices.

*Id.* at 1463-65.

<sup>121</sup> See Deborah A. Garza, *The Court of Appeals Sets Strict Limits on Tunney Act Review: The Microsoft Consent Decree*, ANTITRUST, Fall 1995, at 21, 22.

<sup>122</sup> See *Microsoft*, 56 F.3d at 1462.

<sup>123</sup> See R. Craig Romaine & Steven C. Salop, *Slap Their Wrists? Tie Their Hands? Slice Them into Pieces? Alternative Remedies For Monopolization in the Microsoft Case*, ANTITRUST, Summer 1999, at 15, 16 (stating that injunctive relief does not insure the ability of future competitors to enter the market, and therefore, enjoining a monopolist from future destructive behavior best insures future market entrants).

<sup>124</sup> See *United States v. Microsoft Corp.*, No. CIV.A. 94-1564, 1995 WL 505998, at \*1 (D.D.C. Aug. 21, 1995) (stating products included MS-DOS 6.22, Microsoft Windows 3.11, Windows for Workgroups 3.11, predecessor versions of the aforementioned products, the product currently code-named "Chicago" (Windows 95), and the successor or replacement versions of those products).

<sup>125</sup> See *id.*

could not last for more than one year.<sup>126</sup> This provision was intended to ensure that competing developers of operating systems would not be foreclosed from accessing OEMs.<sup>127</sup> Additionally, the decree mandated that OEMs could not be penalized in any way for not renewing a license agreement.<sup>128</sup> Microsoft could not, through its license agreements, restrict the ability of an OEM to license, sell, or distribute a competing operating system.<sup>129</sup>

Additionally, Microsoft was prohibited from using per processor licenses,<sup>130</sup> which required OEMs to pay a royalty based on the number of computers it sold, regardless of whether the machines contained the Microsoft operating system.<sup>131</sup> The result of this technique was to essentially tax OEMs for shipping non-Microsoft products, since the OEM was paying the royalty either way, thus discouraging OEMs from distributing competitors' products.<sup>132</sup> The consent decree also prohibited licensing agreements expressly or impliedly conditioned upon the licensing of another product, or upon the OEM "not licensing, purchasing, using or distributing any non-Microsoft product."<sup>133</sup> This part of the decree contained a clause

<sup>126</sup> See *id.* at \*2. Microsoft could include a provision giving the OEM the option to renew a agreement for an additional year at the same terms. Previous agreements had been for three to five years. *Id.*

<sup>127</sup> See David A. Balto, *Networks and Exclusivity: Antitrust Analysis to Promote Network Competition*, 7 GEO. MASON L. REV. 523 (1999).

<sup>128</sup> See *Microsoft*, 1995 WL 505998, at \*3. If an OEM chose to renegotiate rather than exercise an option to renew, an increase in royalty rates paid to Microsoft would not constitute a penalty. See *id.*

<sup>129</sup> See *id.* Without an operating system, a computer is "useful only as a boat anchor." *Hill v. Gateway 2000, Inc.*, 105 F.3d 1147, 1149 (7th Cir. 1997).

<sup>130</sup> See *Microsoft*, 1995 WL 505998, at \*3.

<sup>131</sup> See Michael P. Kenny & William H. Jordan, *United States v. Microsoft: Into the Antitrust Regulatory Vacuum Misssteps the Department of Justice*, 47 EMORY L.J. 1351, 1378 (1998).

<sup>132</sup> See *id.* Microsoft contended that this practice was to reduce software piracy, because records of computers shipped were more accurate than tracking the intangible software. See Robert A. Levy, *Microsoft and the Browser Wars*, 31 CONN. L. REV. 1321, 1323 (1999).

<sup>133</sup> *Microsoft*, 1995 WL 505998, at \*3 (emphasis added). The full text of this provision, IV(E), is as follows:

Microsoft shall not enter into any License Agreement in which the terms of that agreement are expressly or impliedly conditioned upon:

- (i) the licensing of any other Covered Product, Operating System Software product or other product (provided, however, that this provision in and of itself shall not be construed to prohibit Microsoft from developing integrated products); or
- (ii) the OEM not licensing, purchasing, using or distributing any non-Microsoft product.

*Id.* at \*3 (emphasis added). Microsoft's alleged violation of this condition was the foundation of the 1997 contempt action. See *infra* notes 137-41 and accompanying text. See generally Kenny & Jordan, *supra* note

agreeing that “this provision in and of itself shall not be construed to prohibit Microsoft from developing integrated products.”<sup>134</sup> The parties have argued fervently over the intent and interpretation of this provision. Microsoft’s argument is that the provision was a requirement for its agreement to the decree, so that it could add features to the operating system.<sup>135</sup> The clause is relevant to the DOJ’s argument that Microsoft impermissibly tied its Internet Explorer web browser to the Windows 98 operating system.<sup>136</sup>

### C. THE 1997 CONTEMPT ACTION

On October 20, 1997, the DOJ initiated proceedings to have Microsoft held in contempt for violating the consent decree.<sup>137</sup> The primary issues involved Microsoft’s integration of its Windows 98 operating system and Internet Explorer browser, and the licensing practices of Microsoft in relation to the allegedly “tied” product.<sup>138</sup> The district court held that although there was not sufficient evidence for a finding of contempt, a preliminary injunction prohibiting Microsoft from bundling the operating system and browser would not impose an undue hardship on Microsoft, and would benefit the marketplace and public.<sup>139</sup> The District of Columbia

---

note 131, at 1385-88 (discussing the provision as the basis of the 1997 contempt order).

<sup>134</sup> *Microsoft*, 1995 WL 505998, at \*3.

<sup>135</sup> See Thomas A. Piraino, Jr., *An Antitrust Remedy for Monopoly Leveraging by Electronic Networks*, 93 NW. U. L. REV. 1, 13 (1998). Microsoft argued that “it could ‘add a ham sandwich’ to its operating menu without violating the Consent Decree.” *Id.* (quoting John Markoff, *Not Exactly Micro, Definitely Not Soft*, N.Y. TIMES, Dec. 28, 1997, at WK3).

<sup>136</sup> See *id.* at 13.

<sup>137</sup> See *United States v. Microsoft Corp.*, 980 F. Supp. 537, 538 (D.D.C. 1997), *rev’d*, 147 F.3d 935 (D.C. Cir. 1998).

<sup>138</sup> See *id.* at 539. This article will refrain from the now perfunctory task of defining and explaining even the most common technological concepts, such as “browser.” But see generally *High-Tech Dictionary* (visited Feb. 1, 2001) <<http://www.computeruser.com/resources/dictionary/dictionary.html/html>> (defining browser as “[a] client program that allows users to read hypertext documents on the World Wide Web, and navigate between them. Examples are Netscape Navigator, Lynx, and Microsoft Internet Explorer. Browsers can be text-based or graphic”).

<sup>139</sup> See *Microsoft*, 980 F. Supp. at 544.



Circuit Court of Appeals reversed on the grounds that the district court incorrectly interpreted the consent decree<sup>140</sup> and erred procedurally in issuing the injunction without notice.<sup>141</sup>

#### D. THE 1998 FEDERAL AND STATE ANTITRUST ACTIONS

On May 18, 1998, the DOJ and twenty states' Attorney Generals (plaintiffs) brought separate suits against Microsoft for alleged antitrust violations at the federal and state levels.<sup>142</sup> Plaintiffs alleged that Microsoft (1) unreasonably restrained competition by tying Internet Explorer to Windows 98, (2) engaged in exclusive dealing arrangements, and (3) restricted OEM modifications to boot and startup screens.<sup>143</sup> It was additionally alleged that Microsoft used exclusionary and predatory practices to illegally maintain a monopoly, and attempted to monopolize the market for Internet browsers.<sup>144</sup>

Generally, a trial of the scope and magnitude of *Microsoft* could translate into a decade-long proceeding.<sup>145</sup> The memory of the IBM litigation, decades before, was not forgotten by the court, which imposed tight guidelines on the parties.<sup>146</sup> The court used its authority to accelerate the proceedings. It eliminated a lengthy discovery process.<sup>147</sup> The number of experts was

<sup>140</sup> See *United States v. Microsoft Corp.*, 147 F.3d 935, 938 (D.C. Cir. 1998). In analyzing the meaning of the relevant provision of the consent decree, the district court stated that its task was to "discern the bargain that the parties struck," and that in doing so, it would, similar to interpreting an ambiguous provision of a contract, look to the intent of the parties and "the circumstances surrounding the formation of the consent order." *Id.* at 946 (citations omitted).

<sup>141</sup> See *id.* at 938.

<sup>142</sup> See *United States v. Microsoft Corp.*, No. CIV.A. 98-1232, 1998 WL 614485, at \*1 (D.D.C. Sept. 14, 1998). These actions were consolidated pursuant to Federal Rule of Civil Procedure 42(a). *Id.*

<sup>143</sup> See *id.*

<sup>144</sup> See *id.*

<sup>145</sup> See Jon M. Garon, *Media & Monopoly in the Information Age: Slowing the Convergence at the Marketplace of Ideas*, 17 CARDOZO ARTS & ENT. L.J. 491, 615 (1999).

<sup>146</sup> The IBM case is notorious for the following reasons. The initial investigation by the government lasted six years, followed by thirteen years of litigation. There were 726 trial days, 17,000 exhibits, and 950 witnesses, at a total cost of over \$200 million. Two years into the trial, IBM had produced 61 million pages of documents, at which point the government subpoenaed an additional five billion pages. IBM estimated that compliance with the subpoena would have taken "62,000 man-years and cost \$1 billion." James V. DeLong, *Washington vs. Microsoft: Don't Repeat IBM Debacle*, WALL ST. J., Mar. 3, 1998, at A18.

<sup>147</sup> Federal Rule of Civil Procedure 65(a)(2) states, in pertinent part, that "[b]efore or after the commencement of the hearing of an application for a preliminary injunction, the court may order the trial of the action on the merits to be advanced and consolidated with the hearing of the application." See also

limited, and deposition could not last longer than one day without leave of court.<sup>148</sup> Additionally, each side was limited to twelve witnesses, whose direct testimony was submitted in writing.<sup>149</sup>

1. *Tying*. Plaintiffs alleged that Microsoft's integration of Internet Explorer with the Windows operating system constituted an improper tying arrangement.<sup>150</sup> Tying exists when a seller conditions the purchase of a product "on the condition that the buyer also purchases a different (or tied) product, or at least agrees that he will not purchase that product from any other supplier."<sup>151</sup> An illegal tying arrangement<sup>152</sup> also requires significant power in the tying market, which is best demonstrated by forcing " 'a purchaser to do something that he would not do in a competitive market.' "<sup>153</sup>

The court's initial focus was on whether Internet Explorer and Windows were in fact separate products.<sup>154</sup> If they were found to be an integrated product, there could be no tying. Various standards exist in order to make this determination. Generally, courts employ the "demand" test set forth in *Jefferson Parish Hospital District No. 2 v. Hyde*.<sup>155</sup> The issue in *Jefferson Parish* was whether an exclusive contract between a hospital and an anesthesiology provider violated section 1 of the Sherman Act.<sup>156</sup> In determining whether

Andrew I. Gavil, *The End of Antitrust Trench Warfare: An Analysis of Some Procedural Aspects of the Microsoft Trial*, ANTITRUST, Summer 1999, at 7 (discussing the court's invocation of the acceleration provisions of Rule 65(a)(2)).

<sup>148</sup> See Gavil, *supra* note 147, at 8-9 (discussing the pretrial orders which limited the number of experts and the duration of deposition).

<sup>149</sup> See *id.* at 9.

<sup>150</sup> See *United States v. Microsoft Corp.*, No. CIV.A. 98-1232, 1998 WL 614485, at \*1 (D.D.C. Sept. 14, 1998).

<sup>151</sup> *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 461 (1992). To violate section 1 of the Sherman Act, the seller in a tying arrangement must have " 'appreciable economic power' in the tying product market" and the arrangement must affect a "substantial volume of commerce in the tied market." *Id.* at 462.

<sup>152</sup> Not all tying arrangements are *per se* illegal. In *Telex Corp. v. International Business Machines Corp.*, 367 F. Supp. 258, 341, 179 U.S.P.Q. (BNA) 777 (N.D. Okla. 1973), *rev'd on other grounds*, 510 F.2d 894, 184 U.S.P.Q. (BNA) 521 (10th Cir. 1975), the court found that "technological advancements" and "a desire to make available in the market improved devices at the earliest practicable time" did not render IBM liable, even though there was some evidence of predatory intent. See also *infra* note 218 (further discussing accusations of tying against IBM).

<sup>153</sup> *Eastman Kodak*, 504 U.S. at 464 (quoting *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 14 (1984)).

<sup>154</sup> See *Microsoft*, 1998 WL 614485, at \*7.

<sup>155</sup> 466 U.S. 2, 19 (1984).

<sup>156</sup> See *id.* at 4.

the “products” provided by the hospital were impermissibly tied,<sup>157</sup> the Supreme Court stated that “the answer to the question of whether one or two products are involved turns not on the functional relation between them, but rather on the character of the demand for the two items.”<sup>158</sup>

Relying on *Jefferson Parish*, the *Microsoft* court stated that “[t]he critical question is whether the bundle consists of products which are ‘distinguishable in the eyes of buyers.’”<sup>159</sup> This question is generally answered via consumer demand and efficiency.<sup>160</sup> The *Microsoft* court also relied on *Eastman Kodak Co. v. Image Technical Services, Inc.*, where the plaintiffs claimed that Kodak’s policy of selling replacement parts for its machines only to those who utilized Kodak’s service team (or repaired machines themselves) was an unlawful tie between the sale of new machines and replacement parts.<sup>161</sup> The Supreme Court stated that “[f]or service and parts to be considered two distinct products, there must be sufficient consumer demand so that it is efficient for a firm to provide service separately from parts.”<sup>162</sup> As applied by the *Microsoft* court, the question was whether Internet Explorer was a separate product from Windows and whether consumers wanted to purchase the products separately.<sup>163</sup>

Microsoft, in claiming that the products were separate, argued that tying claims in a technological environment required the plaintiffs to prove that “the challenged combination was carried out solely for the purpose of tying two separate products together ‘rather than to achieve some technologically beneficial result.’”<sup>164</sup> Otherwise, courts would be forced to ascertain the “technological justifiability” of integration, while hampering the motivation for innovation by casting doubt on the legality of new products.<sup>165</sup> Plaintiffs did not challenge Microsoft’s right to sell Internet Explorer and Windows as

<sup>157</sup> See *id.* at 18 n.27 (noting that the hospital provided patients with a package including facilities such as operating and recovery rooms, and services such as surgeons, radiologists, nurses, laboratory technicians, and anesthesiologists, which, the hospital argued, were functionally integrated).

<sup>158</sup> *Id.* at 19.

<sup>159</sup> *Microsoft*, 1998 WL 614485, at \*7 (quoting *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 19 (1983)).

<sup>160</sup> See *id.*

<sup>161</sup> *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 458-59 (1992).

<sup>162</sup> *Id.* at 462 (citing *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 21-22 (1984)).

<sup>163</sup> See *Microsoft*, 1998 WL 614485, \*12.

<sup>164</sup> *Id.* at \*8 (citation omitted).

<sup>165</sup> See *id.*

an integrated product.<sup>166</sup> Rather, plaintiffs focused the issue on Microsoft's "contractual prohibitions against unbundling, and on Microsoft's refusal to offer" Internet Explorer and Windows separately.<sup>167</sup>

The *Microsoft* court was not swayed by the argument that any standard less than those set forth in *Jefferson Parish* or *Eastman Kodak* should apply. However, the court was mindful of the District of Columbia Circuit Court of Appeals previous decision overruling its issuance of a preliminary injunction against Microsoft's licenses that required OEMs to "take [Internet Explorer] as a condition of licensing Windows 95."<sup>168</sup> Therefore, the district court adopted the following tying analysis:

In cases challenging technical integrations, the Court of Appeals wrote, the ultimate issue is whether the "integrated design offers benefits when compared to a purchaser's combination of corresponding stand-alone functionalities." Noting what it views as the "limited competence of courts to evaluate high-tech product designs and the high cost of error" in making such evaluations, the Court of Appeals cautioned that courts should be "wary of second-guessing the claimed benefits of a particular design decision." Courts should reject any challenge to an integrated product design, the court opined, if there is "a plausible claim" that the integration "brings some advantage." The Court of Appeals went on to articulate a framework for determining whether an integration amounts to a single product for purposes of evaluating a tying claim. "[I]ntegration may be considered genuine if it is beneficial when compared to a purchaser combination." And "in making this inquiry," a court should not "embark on [a] product design assessment," but rather, "[a] court's evaluation of a claim of integration must be narrow and deferential." An integrated product should pass muster if there are "facially plausible benefits to its integrated design." The court noted, however, that

---

<sup>166</sup> See *id.* at \*9.

<sup>167</sup> *Id.*

<sup>168</sup> *Microsoft*, 1998 WL 614485, at \*10; see *supra* notes 137-41 and accompanying text.

manufacturers should not be permitted “to metaphorically ‘bolt’ two products together,” i.e., place two separate products in a single package “for an anticompetitive purpose (or for no purpose at all).”<sup>169</sup>

After considering what Microsoft claimed were the benefits of integration and plaintiffs’ argument that Internet Explorer could be replaced with a different browser without depreciating Windows,<sup>170</sup> the court denied Microsoft’s motion for summary judgment on the tying claims.<sup>171</sup> The court concluded that to be permissible, there had to be a reason that Microsoft, rather than OEMs or consumers, combined the browser and operating system.<sup>172</sup>

In April 2000, the *Microsoft* court issued its findings of law.<sup>173</sup> It found Microsoft liable for tying under section 1 of the Sherman Act.<sup>174</sup> The court made a point to distinguish its decision from the previous decision of the Court of Appeals for the District of Columbia Circuit that held Internet Explorer was not tied to Windows.<sup>175</sup> The court interpreted the earlier court of appeals decision to be inconsistent with Supreme Court precedent on three grounds; the earlier courts of appeals had: (1) viewed the market from the defendant’s perspective, (2) required the claimed advantage to be only plausible and not proven, and (3) failed to require a balance between the hypothetical advantages and anticompetitive effects.<sup>176</sup>

2. *Exclusive Dealing*. Exclusive dealing arrangements implicate antitrust law by foreclosing opportunities for products to reach markets, and by

<sup>169</sup> *Id.* at \*10 (quoting *United States v. Microsoft Corp.*, 147 F.3d 935, 949-50 (D.C. Cir. 1998) (citations omitted)).

<sup>170</sup> Microsoft claimed that combining Internet Explorer with Windows benefited consumers by allowing for seamless movement between the desktop, Internet, and peripheral devices, and application of Internet Explorer functions, such as the “back” and “forward” toolbar buttons. *See id.* at \*11.

<sup>171</sup> *See id.* at \*10.

<sup>172</sup> *See id.* at \*11.

<sup>173</sup> *See United States v. Microsoft Corp.*, 87 F. Supp. 2d 30, 54 U.S.P.Q.2d (BNA) 1365 (D.D.C. 2000).

<sup>174</sup> *See id.* at 47.

<sup>175</sup> *See id.* The court noted that whether its decision was inconsistent with the appellate court was not for it to decide. *See id.*

<sup>176</sup> *See id.* at 47-48. The district court also found the court of appeals decision inconsistent with the Supreme Court’s decisions in *Eastman Kodak Co. v. Image Technical Services, Inc.*, 504 U.S. 451 (1992), and *Jefferson Parish Hospital District No. 2 v. Hyde*, 466 U.S. 2 (1984). *See also supra* notes 154-62 and accompanying text for a discussion of the standard of tying.

raising barriers to market entry by requiring competitors to both manufacture and distribute the product.<sup>177</sup> Generally, a firm chooses to engage in exclusive dealing arrangements for efficiency concerns,<sup>178</sup> specifically to eliminate free riders.<sup>179</sup> The court recognized possible "pro-competitive rationales for such agreements,"<sup>180</sup> and as such, applied a "rule of reason" analysis.<sup>181</sup> Under rule of reason, "the finder of fact must decide whether the questioned practice imposes an unreasonable restraint on competition, taking into account a variety of factors, including specific information about the relevant business, its condition before and after the restraint was imposed, and the restraint's history, nature, and effect."<sup>182</sup> As applied by the *Microsoft* court, the first step was to determine whether there was a foreclosure in a substantial share of the relevant market.<sup>183</sup> If so, the impact of the exclusive dealing arrangement on competition is weighed, along with any "procompetitive justifications that may outweigh anticompetitive effects."<sup>184</sup>

---

<sup>177</sup> See *Microsoft*, 1998 WL 614485, at \*19.

<sup>178</sup> See Jan B. Heide et al., *Exclusive Dealing and Business Efficiency: Evidence from Industry Practice*, 41 J.L. & ECON. 387, 403 (1998). See generally Mary Lou Steptoe & Donna L. Wilson, *Developments in Exclusive Dealing*, ANTITRUST, Summer 1996, at 25 (1996) (discussing the increase in exclusive dealing actions since the lifting of the Vertical Restraints Guidelines).

<sup>179</sup> See Heide et al., *supra* note 178, at 403. Microsoft's licensing agreements required Online Services to commit to continually improving the software. Microsoft argued that its practices were justified to prevent competing browsers from free riding on these improvements. See *Microsoft*, 1998 WL 614485, at \*21.

<sup>180</sup> *Microsoft*, 1998 WL 614485, at \*19. Judge Posner has defined competition as "the allocation of resources in which economic welfare (consumer welfare, to oversimplify slightly) is maximized; it is not rivalry per se, or a particular form of rivalry, or some minimum number of competitors." *Roland Machinery Co. v. Dresser Indus., Inc.*, 749 F.2d 380, 395 (7th Cir. 1984). For example, an exclusive dealing gives a manufacturer or distributor incentives to promote that brand and signals the commitment to the product. It also reduces the ability of the manufacturer or distributor's competitors to free ride on investments made towards advertising and promotion of that brand. See *id.*

<sup>181</sup> See *Microsoft*, 1998 WL 614485, at \*19.

<sup>182</sup> *State Oil Co. v. Khan*, 522 U.S. 3, 10 (1997); see also James A. Keyte, *What It Is and How It Is Being Applied: The "Quick Look" Rule of Reason*, ANTITRUST, Summer 1997, at 21 (1997) (defining the "quick look" rule of reason as "an intermediate test of reasonableness that has characteristics of both the per se and full rule of reason approaches").

<sup>183</sup> See *Microsoft*, 1998 WL 614485, at \*19. The relevant market share is the amount of the browser market foreclosed by the arrangement, and not Microsoft's total market capture. While there is no bright-line rule, the court stated that the plaintiff would have to establish foreclosure greater than forty percent to prevail. See *id.*

<sup>184</sup> *Id.* at \*19.

Plaintiffs alleged that Microsoft engaged in exclusive dealing arrangements with the industry's most significant Internet service providers (ISPs), online service providers (OLs), and Internet content providers (ICPs).<sup>185</sup> The results, plaintiffs claimed, were entrenchment of Windows and harm to competition.<sup>186</sup> Microsoft disputed the allegation, pointing to arrangements that Netscape—their leading browser competitor—had created for downloading the Navigator browser.<sup>187</sup> Microsoft argued that its agreements with ISPs, OLs, and ICPs served legitimate business purposes by benefiting consumers by allowing easier access to the Internet, and “opening the door to a new source of customers.”<sup>188</sup> The court denied the motion for summary judgment, because the difficult balancing between legitimate business interests and exclusionary conduct was a factual question for the trier of fact.<sup>189</sup> Later, in a rare bright spot for Microsoft, the court found that Microsoft was not liable for exclusive dealing under section 1 of the Sherman Act, because Microsoft's actions did not ultimately deprive its competitors from access to a large enough part of the market to constitute a section 1 violation.<sup>190</sup> Although Netscape was shut out of the most direct way for it to reach consumers—placement on the Windows desktop—it maintained access through a variety of other channels.<sup>191</sup> The court found it “legally irrelevant” that Netscape was shut out of the most efficient or reliable channels of distribution, because alternative channels were available.<sup>192</sup>

3. *Modifications to Boot and Startup Screens.* The primary focus here is on the issues involving Microsoft's alleged restrictions on OEMs to modify the Windows 98 startup sequence.<sup>193</sup> Although OEMs were able to modify this sequence with Windows 95, similar changes were prohibited as set forth in the Windows 98 licenses.<sup>194</sup> Microsoft's defenses contained two distinct

<sup>185</sup> See *id.*

<sup>186</sup> See *id.* at \*20.

<sup>187</sup> See *id.* Undercutting Microsoft's argument was the testimony of a Windows developer, that the process of downloading a browser is “painstaking” and “fraught with risk.” *Id.*

<sup>188</sup> Microsoft, 1998 WL 614485, at \*22.

<sup>189</sup> See *id.*

<sup>190</sup> See *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30, 53 (D.D.C. 2000)

<sup>191</sup> See *id.* The court noted that Netscape can be downloaded from the Internet, obtained from retailers, or mailed directly to consumers. *Id.*

<sup>192</sup> *Id.* at 54.

<sup>193</sup> See Microsoft, 1998 WL 614485, at \*14.

<sup>194</sup> See *id.* (“OEMs . . . could not alter the boot-up sequence by, for instance, presenting an OEM-created screen that would highlight a choice of Internet browsers or the OEM's own Internet offerings.”).

prongs. First, that the part of the software specifically at issue—the Windows startup sequence—was protected by copyright and therefore, not subject to modification by OEMs.<sup>195</sup> Second, that its licenses merely duplicated the protections Windows already had under federal copyright law.<sup>196</sup>

Plaintiffs claimed that Microsoft restricted competition by controlling the sequence and content of information presented to users when the computer was turned on.<sup>197</sup> When Windows 95 was released, some OEMs customized the startup sequence for various commercial reasons.<sup>198</sup> By altering the arrangement, display, and content of folders and icons, an OEM could give prominence to a particular company.<sup>199</sup> Additionally, as part of the preinstalled software on the computer, OEMs included browsers besides Internet Explorer.<sup>200</sup> Microsoft perceived this as weakening its goal of dominating the browser market.<sup>201</sup> Microsoft responded by making the sanctity of its startup sequence and layout a condition for receiving a license for Windows 98, contending that its license simply reiterated the rights it already held under the Copyright Act.<sup>202</sup> Furthermore, Microsoft argued that because the license was a valid exercise of its copyright, the license could not be challenged under the antitrust laws.<sup>203</sup> Microsoft stated that the licensing agreements merely require that the very first time a consumer turns on his new computer, Microsoft's copyrighted operating system be allowed to go through its initial startup sequence as designed, developed, and tested by Microsoft and to display the Windows "desktop" screen without any aspects of that screen having been altered by the OEM.<sup>204</sup>

---

<sup>195</sup> See *id.*

<sup>196</sup> See *id.* See generally 17 U.S.C. § 101-113.

<sup>197</sup> See *Microsoft*, 1998 WL 614485, at \*14.

<sup>198</sup> See *id.*

<sup>199</sup> See *id.* (noting that the deals with IAPs and ICPs earned revenue for OEMs). Internet Access Providers, such as AOL and CompuServe, and Internet Content Providers, such as Disney and CBS Sportsline, were the kind of companies cited by the district court. See *id.* at \*2, \*6 n.8.

<sup>200</sup> See *id.* at \*14.

<sup>201</sup> See *id.* (quoting a January 5, 1996 e-mail from Bill Gates, which described the goal as "very very important").

<sup>202</sup> See *Microsoft*, 1998 WL 614485, at \*14 (noting that several OEMs requested that Microsoft allow them to provide new PC purchasers with an alternative boot-up sequence or first screen, but Microsoft refused).

<sup>203</sup> See *id.*

<sup>204</sup> See *id.*



Plaintiffs contended that Microsoft's licensing restrictions were a restraint on trade in violation of section 1 of the Sherman Act.<sup>205</sup> The court stated "the restrictions are subject to a 'rule of reason' analysis, and are unlawful only if they injure competition by restricting competitors' output more than they further Microsoft's legitimate objectives, or if Microsoft's objectives could be achieved by a less restrictive means."<sup>206</sup> Rule of reason analysis determines whether the conduct at issue promotes or suppresses competition,<sup>207</sup> by weighing all of the circumstances to determine whether a restrictive practice imposes an unreasonable restraint on competition.<sup>208</sup> Microsoft contended that because the licenses merely reiterated its intellectual property rights in Windows, the licenses were not open to antitrust challenge.<sup>209</sup> The court responded by setting forth a number of actions it viewed as beyond the purview of allowable behavior under copyright law. Copyright law does not (1) "give its holder immunity from laws of general applicability, including the antitrust laws";<sup>210</sup> (2) give unhampered ability to extend control to other markets;<sup>211</sup> (3) allow obstacles to be placed in front of competitors' "development and use of interoperable programs";<sup>212</sup> or (4) prevent antitrust liability for "anticompetitive licensing restrictions."<sup>213</sup>

Microsoft argued that its licenses did not violate antitrust laws because there was no market foreclosure.<sup>214</sup> However, it was not relevant that the alleged intent of Microsoft's licenses with OEMs was to protect its copyrighted product, because the effect was to foreclose the ability of

<sup>205</sup> See *id.*

<sup>206</sup> *Id.* (citations omitted).

<sup>207</sup> See *National Soc'y of Prof'l Eng'rs v. United States*, 435 U.S. 679, 691 (1978) (holding that canon of ethics prohibiting competitive bidding was not justified under rule of reason and violated section 1 of the Sherman Antitrust Act).

<sup>208</sup> See *Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 49 (1977) (holding that the location restriction should be judged under the traditional rule of reason standard).

<sup>209</sup> See *Microsoft*, 1998 WL 614485, at \*14.

<sup>210</sup> *Id.* at \*15 (citing *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147 (1st Cir. 1994)).

<sup>211</sup> See *id.* (citing *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451 (1992)).

<sup>212</sup> *Id.* (citing *DSC Communications Corp. v. DGI Techs. Inc.*, 81 F.3d 597 (5th Cir. 1996)).

<sup>213</sup> *Id.* (citing *Practice Management Info. Corp. v. American Med. Ass'n*, 121 F.3d 516 (9th Cir. 1997)).

<sup>214</sup> See *Microsoft*, 1998 WL 614485, at \*17; Kurt A. Strasser, *Antitrust Policy in Agreements for Distributor Exclusivity*, 16 CONN. L. REV. 969, 986 (1984) ("The cases in this area have been the subject of extensive commentary, and the consensus is that foreclosure is one of the primary anticompetitive effects with which antitrust courts have been concerned.").

competitors to obtain space in the startup sequence or desktop area.<sup>215</sup> In its Findings of Fact, issued on November 5, 1999, the court stated, as an example of Microsoft's "burdensome[licensing] restrictions," that "Microsoft attaches to a Windows license conditions that restrict the ability of OEMs to promote software that Microsoft believes could weaken the applications barrier to entry."<sup>216</sup>

In an effort to thwart the practice of OEM customization, Microsoft began, in the spring of 1996, to force OEMs to accept a series of restrictions on their ability to reconfigure the Windows 95 desktop and boot sequence. There were five such restrictions, which were manifested either as amendments to existing Windows 95 licenses or as terms in new Windows 98 licenses. First, Microsoft formalized the prohibition against removing any icons, folders, or "Start" menu entries that Microsoft itself had placed on the Windows desktop. Second, Microsoft prohibited OEMs from modifying the initial Windows boot sequence. Third, Microsoft prohibited OEMs from installing programs, including alternatives to the Windows desktop user interface, which would launch automatically upon completion of the initial Windows boot sequence. Fourth, Microsoft prohibited OEMs from adding icons or folders to the Windows desktop that were not similar in size and shape to icons supplied by Microsoft. Finally, when Microsoft later released the Active Desktop as part of Internet Explorer 4.0, it added the restriction that OEMs were not to use that feature to display third-party brands.<sup>217</sup>

Plaintiffs also challenged Microsoft's practice of refusing to license Windows 95 without Microsoft's Internet Explorer web browser.<sup>218</sup> Here,

<sup>215</sup> See, e.g., *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 478 (1992) ("[M]arket foreclosure is facially anticompetitive and exactly the harm that antitrust laws aim to prevent.").

<sup>216</sup> *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9 (D.D.C. 1999). The Findings of Fact were generally viewed as a victory for the Government. At least one journalist could not help pointing out that as "one final jab at Microsoft, the electronic version of [the] ruling, provided to lawyers on both sides as well as journalists, was formatted not for Microsoft's industry-standard Word software program for word processing, but rival Corel Corp.'s struggling WordPerfect software." Rajiv Chandrasekaran, *Judge Says Microsoft Wields Monopoly Power over Rivals; Public, Innovation Hurt by Domination, Findings Conclude*, WASH. POST, Nov. 6, 1999, at A1.

<sup>217</sup> See *Microsoft*, 84 F. Supp. 2d at 61, para. 213. OEMs have a tremendous financial interest in making the process of using a new computer easy and understandable, especially for new users. See *id.* at 60, para. 210. Multiple icons on the desktop, or in the Start menu, can lead customers to seek assistance from user support, which is provided by the OEM. See *id.* at 63, para. 217. "[J]ust three calls from a consumer can erase the entire profit that an OEM earned selling a PC system to that consumer. . . ." *Id.* at 60, para. 210.

<sup>218</sup> See *Microsoft*, 1998 WL 614485, at \*9. In the 1960's and 70's, IBM was accused of illegally tying the central processing units of its computers with peripheral devices, such as disk drives, and then selling the

the court declared that “[n]o technical reason can explain Microsoft’s refusal to license Windows 95 without Internet Explorer 1.0 and 2.0.”<sup>219</sup> The court also found that Microsoft’s licenses were more “restrictive” than those of Apple or IBM, Microsoft’s primary competitors for operating systems, because Microsoft alone sought to prevent new competitors from bringing products to the market.<sup>220</sup> The court ultimately concluded that Microsoft’s activities constituted the maintenance of monopoly power by anticompetitive means.<sup>221</sup> That is, Microsoft did not proffer any legitimate business objectives explaining its exclusionary conduct.<sup>222</sup> In regard to its copyright defense, the court explained that the legitimacy of Microsoft’s copyright was never in question. Microsoft did not show that the restrictions it placed on OEMs came from its rights under the Copyright Act.<sup>223</sup>

## E. REMEDIES

The parties failed to reach a settlement, and the potential remedies are very much in dispute.<sup>224</sup> In a broad sense, remedies fall into two general categories: structural and conduct. Structural relief would involve splitting Microsoft into at least two groups. The split could be horizontal, which would divide Microsoft into multiple companies, each with a specific product, such as operating systems and applications.<sup>225</sup> A vertical split would

machine as an integrated unit. See *id.* at \*8. The effect was that small companies which manufactured peripheral devices were injured. See *id.* IBM prevailed on these claims, because the integration was found to be a “technological advancement.” *Id.* In contrast to the IBM claims, the claims against Microsoft were for alleged improper licensing provisions which prevented OEMs from selling Windows separate from Internet Explorer. See *id.* at \*9.

<sup>219</sup> *Microsoft*, 84 F. Supp. 2d at 53, paras. 175, 176 (D.D.C. 1999) (“Similarly, there is no technical justification for Microsoft’s refusal to license Windows 95 to OEMs with Internet Explorer 3.0 or 4.0 uninstalled, or for its refusal to permit OEMs to uninstall Internet Explorer 3.0 or 4.0.”).

<sup>220</sup> See *id.* at 42, para. 129, 66, para. 228.

<sup>221</sup> See *Microsoft*, 87 F. Supp. 2d 30, 39, para. 1.A.2. (D.D.C. 2000)

<sup>222</sup> See *id.* at 40, para. 1.A.2.a.i.

<sup>223</sup> See *id.*

<sup>224</sup> The issue has provided a bonanza for experts to give their opinions on possible remedies. See, e.g., Joel Brinkley, *A Microsoft Remedy: Antitrust Experts Offer Prescriptions*, N.Y. TIMES, Nov. 15, 1999, at C1. Of the five experts interviewed for the story, three recommended structural remedies, and the other two recommended conduct remedies, but they all agreed that the remedy should be “self-executing,” meaning that no further government involvement would be required. See *id.*

<sup>225</sup> See Jonathan Zittrain, *The Un-Microsoft Un-Remedy: Law Can Prevent the Problem That It Can’t Patch Later*, 31 CONN. L. REV. 1361, 1370-71 (1999).

result in several "Microsofts" competing against each other.<sup>226</sup> Conduct relief would be aimed at changing Microsoft's behavior and includes options such as "prohibitions on discrimination, bundling prohibitions, disclosure of application programming interfaces (APIs) and source code, and requirements that Microsoft's software comply with certain industry standards."<sup>227</sup> If Microsoft is involuntarily broken up, it would mark the first time that has happened to a major corporation since the breakup of Standard Oil in 1911.<sup>228</sup>

### III. INTEL

#### A. FACTUAL BACKGROUND

On November 17, 1997, Intergraph brought suit against Intel alleging patent infringement, anticompetitive practices, and antitrust violations.<sup>229</sup> On June 8, 1998, the FTC brought an action against Intel for the company's refusal to share technological information regarding its microprocessors.<sup>230</sup> While the former continues to play out in court, the latter was settled by a consent decree in March, 1999, twenty-four hours before the trial was to start.<sup>231</sup> The *Intergraph Corp. v. Intel Corp.* suit is significant for the factual and legal conclusions made by the court in response to Intergraph's motion for a preliminary injunction. The FTC action, which involved many of the same issues, is significant because it serves as a guide to FTC policy and a foundation for future antitrust actions in the technology industry.

Intel was investigated by the FTC for its conduct vis-a-vis other companies with which it had business relationships. The FTC alleged that Intel had monopoly power in the microprocessor market. Intel was accused

---

<sup>226</sup> See Leonard Orland, *Teaching Antitrust During Microsoft*, 31 CONN. L. REV. 1375, 1383 (1999) (discussing potential divestiture schemes for Microsoft). The media generally refers to these potential companies as "Baby Bills." *Id.*

<sup>227</sup> Romaine & Salop, *supra* note 123, at 18.

<sup>228</sup> See *Standard Oil Co. v. United States*, 221 U.S. 1 (1911).

<sup>229</sup> For the text of the complaint, see *Intergraph Corp. v. Intel Corp.*, *Fourth Amended Complaint* (visited Jan. 14, 2001) <<http://www.intergraph.com/intel/4th.htm>>.

<sup>230</sup> For the text of the complaint, see *In re Intel Corp.*, *Docket No. 9288, Complaint* (visited Jan. 14, 2000) <<http://www.ftc.gov/os/1998/9806/intelfin.cmp.htm>>.

<sup>231</sup> For the text of the consent decree, see *In re Intel Corp.*, *Docket No. 9288, Agreement Containing Consent Order* (visited Jan. 14, 2001) <<http://www.ftc.gov/os/1999/9903/d09288intelagreement.htm>> or *In re Intel Corp.*, No. 9288, 1999 WL 701835 (F.T.C. Aug. 3, 1999).

of (1) entrenching its position by refusing to deal with certain competitors and (2) attempting to coerce licenses from these competitors by its refusal to deal.<sup>232</sup> The FTC contended that this behavior constituted unlawful monopolization, unlawful attempted monopolization, and unfair competition—all violations of section 5 of the Federal Trade Commission Act.<sup>233</sup> The FTC may pursue a section 5 violation under the standards of the Sherman Act.<sup>234</sup>

## B. THE FTC CONSENT DECREE

The FTC's investigation of Intel was spurred by Intel's alleged attempt to coerce patent licenses from its OEMs by threatening to withhold technical information that Intel had customarily provided.<sup>235</sup> Intel allegedly withheld information from three corporations—Compaq, Digital Equipment, and Intergraph—each of which had ongoing relations with Intel, after Intergraph brought a suit against Intel for patent infringement.<sup>236</sup> After Intel's attempts to obtain licenses for use of the allegedly infringing patents failed, it retaliated by withholding advance technical information and product samples from Intergraph.<sup>237</sup>

The decree's purpose was to prevent Intel from cutting off information from companies with which it had intellectual property disputes.<sup>238</sup> This information was generally prerelease specifications of microprocessors, which were necessary for OEMs to make their machines compatible with Intel's processors. In broad terms, it prevented Intel from unlawfully withholding information from the customers when there was an intellectual property dispute. The term of the decree is ten years.<sup>239</sup>

---

<sup>232</sup> See *In re Intel Corp.*, Docket No. 9288, Complaint, *supra* note 230.

<sup>233</sup> See *id.*; 15 U.S.C. § 45 (1994). A section 5 violation for unfair practices occurs if the activity "offends established public policy and when the practice is immoral, unethical, oppressive, unscrupulous or substantially injurious to consumers." *Spiegel, Inc. v. Federal Trade Comm'n*, 540 F.2d 287, 293 (7th Cir. 1976).

<sup>234</sup> See Randal C. Picker, *Regulating Network Industries: A Look at Intel*, 23 HARV. J.L. & PUB. POL'Y 159, 174 (1999).

<sup>235</sup> See *Burling et al.*, *supra* note 114, at 544-45.

<sup>236</sup> See *id.* at 545-46.

<sup>237</sup> See *id.*

<sup>238</sup> See *id.* at 547-48.

<sup>239</sup> See *In re Intel Corp.*, No. 9288, 1999 WL 701835, para. II.A. (F.T.C. Aug. 3, 1999).

The key defined terms in the decree are “advanced technical information” and “intellectual property dispute.” The advance technical information in question included confidential product information required by the OEM to enable the incorporation of a microprocessor into the product.<sup>240</sup> The confidential information included the product’s electrical, mechanical, and thermal characteristics; samples; fixes; and technical support for the information.<sup>241</sup> An intellectual property dispute was defined to encompass a situation where an Intel customer directly or indirectly threatened to assert a patent, copyright, or trade secret right against Intel or an Intel customer, for computer technology involving an Intel product.<sup>242</sup>

The decree was targeted towards a specific problem. It prohibited Intel from taking or threatening to take action that involved “impeding, altering, suspending, withdrawing, withholding, or refusing to provide” advance technical information to a customer, provided that an intellectual property dispute existed, and the customer was already receiving advance information.<sup>243</sup> Nor may Intel base any supply decision on the existence of an intellectual property dispute.<sup>244</sup>

However, several significant limitations to these prohibitions exist. The limitations do not apply when a customer is suing Intel for patent, copyright, or trade secret violations unless the customer agrees in writing not to seek to enjoin Intel from the “manufacture, use, sale, offer to sell, or importation” of the materials being disputed.<sup>245</sup> As long as the customer seeks remedies other than injunctive relief, Intel may not engage in the conduct prohibited by the decree.<sup>246</sup>

Further defining the decree is language setting how the limits are to be interpreted.<sup>247</sup> The limitations are not to be construed to limit Intel’s ability to seek remedies in an intellectual property dispute, provided it does not cut

---

<sup>240</sup> See *id.* at para. I.C.

<sup>241</sup> See *id.* at para. I.C. The order required disclosure no later than six months before the release date.  
See *id.*

<sup>242</sup> See *id.* at para. I.D.

<sup>243</sup> *Id.* at para. II.A.

<sup>244</sup> See *Intel*, 1999 WL 701835, at para. II.A.

<sup>245</sup> *Id.* This provision does not limit the right of Intel to use all legal remedies with regard to its intellectual property. See *id.* at para. II.B.1.

<sup>246</sup> See *id.* at para. II.A.

<sup>247</sup> See *id.* at para. II.B.

off advance information.<sup>248</sup> Intel may require the return of advance information based on business considerations unrelated to an intellectual property dispute.<sup>249</sup> The ability of Intel to make supply decisions based on business considerations unrelated to a dispute is not affected.<sup>250</sup> Finally, Intel is not required to provide information or microprocessors where the provided information will be used by the customer to assist in the design or development of a new product.<sup>251</sup>

The consent decree generally would not apply in the *Intergraph* case, because Intergraph is seeking injunctive relief in its patent infringement case against Intel. However, the court ordered Intel to continue to supply Intergraph with the intellectual property at issue through the trial date. Had Intergraph limited its proposed remedy to damages, Intel would violate the decree if it chose to terminate its preferred relationship with Intergraph.

The principles the decree sets forth are significant in several respects. Intel, the dominant player in microprocessor development and manufacturing, is prevented from using its position to obtain concessions it otherwise would not get. Although the consent decree does not brandish Intel a monopoly, given that it has a market share of over eighty percent,<sup>252</sup> a monopoly finding was not out of the question. This was, perhaps, significant incentive for Intel to reach a negotiated settlement.

### C. INTERGRAPH V. INTEL

The working relationship between Intergraph and Intel dates back to 1993.<sup>253</sup> Prior to that time, Intergraph manufactured high end workstations,<sup>254</sup> which relied on an advanced patented microprocessor called the "Clipper."<sup>255</sup> The Clipper was the property of Fairchild Semiconductor.<sup>256</sup>

<sup>248</sup> See *id.* at para. II.B.1.

<sup>249</sup> See *Intel*, 1999 WL 701835, at para. II.B.2.

<sup>250</sup> See *id.* at para. II.B.3.

<sup>251</sup> See *id.* at para. II.B.4.

<sup>252</sup> See William J. Baer & David A. Balto, *New Myths and Old Realities: Recent Developments in Antitrust Enforcement*, 1999 COLUM. BUS. L. REV. 207, 225.

<sup>253</sup> See *Intergraph Corp. v. Intel Corp.*, 3 F. Supp. 2d 1255, 1258 (N.D. Ala. 1998), *vacated*, 195 F.3d 1346, 52 U.S.P.Q.2d (BNA) 1641 (Fed. Cir. 1999).

<sup>254</sup> Intergraph's workstations were designed for computer aided drafting and designing systems, typically used by engineers or architects. See *Intergraph*, 3 F. Supp. 2d at 1263.

<sup>255</sup> See *Intergraph*, 3 F. Supp. 2d at 1263.

<sup>256</sup> See *id.*

Intergraph purchased the rights to the Clipper in 1987.<sup>257</sup> In 1993, due to the shift towards the Microsoft Windows operating system, Intergraph focused on developing a workstation that would be compatible with Windows<sup>258</sup> and switched from the Clipper technology to Intel microprocessors.<sup>259</sup> The following year Intel "designated Intergraph a 'strategic customer,' and provided Intergraph with various special benefits, including proprietary information and products, under non-disclosure agreements."<sup>260</sup> However, in 1996, based on the use of Clipper-related patents in Intel microprocessors, Intergraph sued several Intel OEMs for patent infringement.<sup>261</sup> The OEMs sought indemnity from Intel while Intel attempted to negotiate a license agreement to the Clipper. After negotiations between the two companies broke down, Intel ceased providing the technical assistance and special benefits that were part of the strategic customer relationship.<sup>262</sup>

In 1997, Intergraph sued Intel for, *inter alia*, patent infringement,<sup>263</sup> and motioned to enjoin Intel (1) from further infringement, and (2) from stopping or delaying the benefits that were previously provided to Intergraph. After Intel opposed Intergraph's motion, Intergraph added antitrust violation to its complaint.<sup>264</sup> The district court granted Intergraph's motion for a preliminary injunction, thereby requiring Intel to continue treating Intergraph as a strategic customer.<sup>265</sup> The decision was based in part on the court's finding that Intergraph had a substantial likelihood of success in prevailing on at least one of its claims at trial.<sup>266</sup> However, in a highly

<sup>257</sup> See *id.* For a chronology of the Clipper patents, see *Intergraph, Chronology, Acquisition of Clipper-related Patents* (last modified Feb. 28, 2000) <<http://www.intergraph.com/intel/clipper.asp>>.

<sup>258</sup> See *Intergraph*, 3 F. Supp. 2d at 1264.

<sup>259</sup> See *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346, 1350 (Fed. Cir. 1999).

<sup>260</sup> *Id.* at 1350. Because of this relationship, Intergraph also obtained "trade secrets . . . , intellectual property, pre-release products, [and] allocation of new products." *Id.* at 1351.

<sup>261</sup> See *id.* The alleged infringed patent numbers are 4,860,192; 4,884,197; 4,899,275; 4,933,835; and 5,091,846. These patents are available to view or download at *Welcome to the USPTO Web Patent Database* (visited Jan. 14, 2001) <<http://www.uspto.gov/patft/index.html>>.

<sup>262</sup> See *id.*

<sup>263</sup> See *id.* Intergraph also sued for "fraud, misappropriation of trade secrets, negligence, wantonness and willfulness, breach of contract, intentional interference with business relations, breach of express and implied warranties, and violation of the Alabama Trade Secrets Act." *Id.*

<sup>264</sup> See *Intergraph*, 3 F. Supp. 2d at 1350.

<sup>265</sup> See *id.* at 1259, 1291.

<sup>266</sup> See *id.* at 1259. The court stated that under Federal Rule of Civil Procedure 65, to prevail on its motion for a preliminary injunction, Intergraph was required to prove that:

(1) [I]t has a substantial likelihood of ultimate success on the merits of one or more of its substantive claims; (2) there is a substantial threat that it will suffer irreparable



detailed opinion,<sup>267</sup> the Court of Appeals for the Federal Circuit vacated the injunction.<sup>268</sup>

Intel argued that it should not be required to maintain a special relationship with a company that was suing it on multiple counts and attempting to close down its development and manufacture of high performance microprocessing chips—the “core” of its business.<sup>269</sup> Intergraph argued that “it can not survive in its highly competitive graphics workstation business without these services and benefits from Intel, and that the district court simply acted to preserve Intergraph’s prior commercial position while the parties litigate unrelated patent issues.”<sup>270</sup>

1. *Market Definition.* The most serious of the district court’s findings was that Intergraph was likely to succeed in showing that Intel was a monopolist, which would require Intergraph to demonstrate the existence of both monopoly power and anticompetitive conduct.<sup>271</sup> “Monopoly power is generally defined as the power to control prices or exclude competition in a relevant market; anticompetitive conduct is generally defined as conduct whose purpose is to acquire or preserve the power to control prices or exclude competition.”<sup>272</sup> Most importantly, “[t]he prohibited conduct must be directed toward *competitors* and must be intended to injure *competition*.”<sup>273</sup> Furthermore, the conduct must involve the “relevant market,” which itself is made up of two parts: the product market and the geographic market.<sup>274</sup> The product market “identifies the products or services that compete with

---

injury in the absence of preliminary relief; (3) the likely injury to itself is greater than that likely to be suffered by the defendant; and (4) entry of the preliminary injunction would not disserve the public interest.

*Id.*

<sup>267</sup> See Michael Kanellos, *Court lifts injunction in Intel-Intergraph case* (Nov. 5, 1999) <<http://news.cnet.com/news/0-1006-200-1430739.html?tag=st.ne.1002>> (noting that the appeals court’s opinion is forty-three pages).

<sup>268</sup> See *Intergraph*, 195 F.3d at 1346.

<sup>269</sup> See *id.* at 1350.

<sup>270</sup> *Id.* Intel pointed to the contradiction in Intergraph’s argument: that Intergraph claimed it was essential that it have these products, while at the same time seeking to shut down Intel’s product production. See *id.*

<sup>271</sup> See *id.* at 1352-53.

<sup>272</sup> *Id.* at 1353.

<sup>273</sup> *Intergraph*, 195 F.3d at 1353.

<sup>274</sup> See *id.* (citing *Brown Shoe Co. v. United States*, 370 U.S. 294, 324 (1962)); see also Robert Pitofsky, *New Definitions of Relevant Market and the Assault on Antitrust*, 90 COLUM. L. REV. 1805, 1806-07 (1990) (“Definition of relevant market is a critical analytical tool in antitrust enforcement because the legality of business conduct almost always depends upon the market power of the participants.”).

each other.”<sup>275</sup> The geographic market is the physical area where competition occurs.<sup>276</sup> Intergraph’s claim was essentially lost when the circuit court found that Intel and Intergraph did not compete in the same markets.<sup>277</sup> Intel’s market was for “high-end microprocessors, and . . . the submarket of Intel microprocessors.”<sup>278</sup> Intergraph’s market was for graphic subsystems and high-end workstations.<sup>279</sup> Although Intel’s withdrawal of technical support and assistance may have harmed Intergraph, the harm was not in a market in which the two competed, and thus could not warrant the relief Intergraph sought.<sup>280</sup>

2. *Essential Facility*. The most controversial aspect of the district court’s decision was that Intel’s microprocessors constituted an “essential facility” upon which Intergraph was entitled to access.<sup>281</sup> The essential facility doctrine requires a monopolist that holds a facility essential to competitors to “provide reasonable access to that facility if it is feasible to do so.”<sup>282</sup> The doctrine was introduced in *United States v. Terminal Railroad Association of St. Louis*,<sup>283</sup> where the facilities upon which railroad traffic relied—such as terminals, bridges, and switching yards—were brought under unitary control by an association of railroads.<sup>284</sup> Because the association’s competitors could not afford to construct their own facilities, and thus the association had the ability to impede outside competition, the Supreme Court held that, under just and reasonable terms, the association was to allow “the use of the terminal facilities by any other railroad not electing to become a joint owner, upon such just and reasonable terms and regulations as will, in respect of use, character, and cost of service, place every such company upon as nearly an equal plane as may be with respect to expenses and charges as that occupied by the [association].”<sup>285</sup>

---

<sup>275</sup> *Intergraph*, 195 F.3d at 1353.

<sup>276</sup> *See id.*

<sup>277</sup> *See id.* at 1355.

<sup>278</sup> *Id.*

<sup>279</sup> *See id.*

<sup>280</sup> *See Intergraph*, 195 F.3d at 1355.

<sup>281</sup> *See id.* at 1356. *See generally* Abbott B. Lipsky, Jr. & J. Gregory Sidak, *Essential Facilities*, 51 STAN. L. REV. 1187 (1999) (discussing the essential facilities doctrine).

<sup>282</sup> Lipsky & Sidak, *supra* note 281, at 1191.

<sup>283</sup> 224 U.S. 383 (1912).

<sup>284</sup> *See id.* at 394.

<sup>285</sup> *Id.* at 411. The doctrine has since been applied to facilities including:

[T]he New York Stock Exchange, the Providence, Rhode Island wholesale produce

Intergraph argued that because it was dependent on Intel's microprocessors for its workstation market, it was entitled to cooperation from Intel, and therefore Intel could not terminate the cooperative relationship between them.<sup>286</sup> The court set out the elements necessary for liability under the doctrine as being: “(1) control of the essential facility by a monopolist; (2) a competitor's inability practically or reasonably to duplicate the essential facility; (3) the denial of the use of the facility to a competitor; and (4) the feasibility of providing the facility.”<sup>287</sup> However, the doctrine is not to be applied in order to require an involuntary access to property or privileges.<sup>288</sup> Additionally, the doctrine cannot be applied when there is no intent to eliminate competition in a “downstream market.”<sup>289</sup> The circuit court rejected the district court's analysis that Intel's microprocessors constituted an essential facility, because there was no competitive relationship between the two companies.<sup>290</sup>

3. *Refusal to Deal.* In the alternative, Intergraph argued that Intel's actions constituted a refusal to deal, regardless of whether Intel constituted an essential facility.<sup>291</sup> In *United States v. Colgate & Co.*,<sup>292</sup> the Supreme Court stated that “in the absence of any purpose to create or maintain a monopoly, the [Sherman Act] does not restrict the long recognized right of [a] trader or manufacturer engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will deal.”<sup>293</sup> Intel

---

market, the multiple listing services for residential real estate, the computerized airline reservation system, modern rail networks, regional electricity distribution networks, natural gas pipelines, oil pipelines and storage facilities, a municipal pier, an airport terminal, football and basketball stadiums, and the nationwide transmission and switching facilities that once comprised the local telephone network of the former Bell System.

Lipsky & Sidak, *supra* note 281, at 1191 (citations omitted). See generally Norman W. Hawker, *Open Windows: The Essential Facilities Doctrine and Microsoft*, 25 OHIO N.U. L. REV. 115 (1999) (discussing the essential facility doctrine as applied to Microsoft Windows).

<sup>286</sup> See *Intergraph*, 195 F.3d at 1356.

<sup>287</sup> *Id.* at 1357 (quoting *MCI Communications Corp. v. American Tel. & Tel. Co.*, 708 F.2d 1081, 1132-33 (7th Cir. 1983)).

<sup>288</sup> See *id.*

<sup>289</sup> *Id.*

<sup>290</sup> See *id.* at 1355. “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.” *Id.* at 1357-58.

<sup>291</sup> See *id.* at 1358.

<sup>292</sup> 250 U.S. 300 (1919).

<sup>293</sup> *Id.* at 307.

argued that it continued to sell its products to Intergraph even after the lawsuit was filed.<sup>294</sup> The court added that the bringing of a lawsuit is grounds to end a business relationship.<sup>295</sup> Liability for refusal to deal entails a refusal against a competitor, with the purpose to “create, maintain, or enlarge a monopoly.”<sup>296</sup> Intergraph provided no support to show that Intel’s actions were designed to increase its competitive position.<sup>297</sup> Thus, the court found no violation of the antitrust laws.<sup>298</sup>

4. *Leveraging.* Generally, leveraging occurs when conduct by a monopolist threatens a second market with higher prices, or reduced output or quality.<sup>299</sup> Illegal leveraging requires the use of monopoly power to “‘gain a competitive advantage.’”<sup>300</sup> However, because courts have generally been inconsistent in defining the “advantage” gained by the monopolist, leveraging is a concept of “imprecise definition.”<sup>301</sup>

The district court stated that Intel was using its monopoly power in the microprocessor market to harm Intergraph’s power in the graphics subsystems and workstation markets.<sup>302</sup> Although Intel testified to an intention to enter the graphics subsystems and workstation markets, where it would compete against Intergraph, this intention did not constitute a *per se* leveraging violation.<sup>303</sup> Additionally, Intergraph provided no evidence showing what, if any, market power Intel possessed in regard to the graphics substations and workstations markets. Most importantly, “the purpose of the antitrust laws is to foster competition in the public interest, not to protect others from competition, in their private interest.”<sup>304</sup> The district court’s injunction, therefore, was not supported by the leveraging theory.<sup>305</sup>

5. *Intellectual Property Used to Restrain Trade.* The information that Intergraph sought from Intel was protected by copyright and patent.<sup>306</sup>

---

<sup>294</sup> See *Intergraph*, 195 F.3d at 1358.

<sup>295</sup> See *id.*

<sup>296</sup> *Id.*

<sup>297</sup> See *id.* at 1359.

<sup>298</sup> See *id.*

<sup>299</sup> See *Intergraph*, 195 F.3d at 1359.

<sup>300</sup> *Id.* (quoting *United States v. Griffith*, 334 U.S. 100, 107 (1948)).

<sup>301</sup> *Id.*

<sup>302</sup> See *id.*

<sup>303</sup> See *id.*

<sup>304</sup> *Intergraph*, 195 F.3d at 1360.

<sup>305</sup> See *id.*

<sup>306</sup> See *id.* at 1362.

While these intellectual property protections did not grant Intel the right to violate antitrust laws, at the same time, antitrust laws did not impose an affirmative obligation upon Intel to share its protected work with a competitor.<sup>307</sup> The circuit court stated that antitrust and patent laws both serve important public and governmental interests.<sup>308</sup> Had Intergraph sought licenses to Intel's copyrights and patents, exclusionary conduct might have been an issue. However, Intergraph sought preferred treatment from Intel, and the court concluded that there was no obligation to provide such treatment.<sup>309</sup> Because invocation of the Sherman Act requires competition between the parties, the circuit court rejected the district court's finding that Intel improperly used its intellectual property to restrain trade.<sup>310</sup>

#### IV. ANALYSIS

##### A. LESSONS OF THE CONSENT DECREES

While the consent decrees entered into by Microsoft and Intel were both directed to specific problems, these problems are not unique to these companies. The *Microsoft* decree focused on licenses. Most important were the requirements that (1) the term of a license cannot be more than one year and (2) a license cannot require the purchase or use of any other product. The general principle set forth in the *Intel* decree was that if two companies have developed a relationship where one company becomes reliant on the other for certain intellectual property, the dominant company may not use its position, by threatening to terminate the relationship, in order to obtain benefits it ordinarily would not receive. Put more simply, once a friend, always a friend (with certain exceptions).

1. *Limited Length of Licenses.* The requirement that licenses cannot last for longer than one year is necessary to counter high barriers to entry—a characteristic of network economies.<sup>311</sup> High barriers to entry prevent competitors from entering a market, particularly in the computer industry, in two ways. First, the initial research and development costs of a product

---

<sup>307</sup> See *id.*

<sup>308</sup> See *id.*

<sup>309</sup> See *Intergraph*, 195 F.3d at 1363.

<sup>310</sup> See *id.*

<sup>311</sup> See *Romaine & Salop*, *supra* note 123, at 23 n.8.

can be staggering. Not only must developers ensure that their product works, but the product must also function in conjunction with other products. For example, the developer of a graphics program who holds any realistic hope for market penetration must develop a product that can be launched from the Windows operating system. Similarly, a computer manufacturer will need to develop a machine that uses Intel's Pentium processors.<sup>312</sup>

When a company, for instance an OEM, enters into a long-term license to use a particular product, be it an operating system, microprocessor, or external speakers, competitors are essentially shut out of that market for the duration of the license. Microsoft's long-term licenses served two functions. First, the licenses kept Netscape, its rival in the Internet browser market, from acquiring a larger installed base on machines than it already had, and soon allowed Microsoft's market share to equal Netscape's.<sup>313</sup> Netscape had to content itself, for the most part, with encouraging users to download its Navigator browser—a potentially daunting exercise for many novice users. At the same time, the licenses ensured that Microsoft would hold its own dominant position in the operating system market.

By requiring a shorter license length, OEMs will have the flexibility to respond to market demands, new technologies, and their own marketing strategies. Regardless of the hold that Microsoft has in the industry, it is inevitable that competition will occur, be it through government intervention or through changes in the market. Imposing this restraint on competitors in network economies<sup>314</sup> before network effects occur will reduce the likelihood of other companies using the Microsoft model, and thus capturing monopoly power.

---

<sup>312</sup> Network effects and high barriers to entry have not dissuaded all competitors. Recently, the microprocessor manufacturer AMD released its Athlon microprocessor, which it claimed in flashy television ads, was several times faster than the Pentium III. See *AMD Athlon™ Commercial* (visited Jan. 14, 2001) <<http://www.amd.com/advertising/tv/train.html>>. The success of the Athlon has yet to be determined.

<sup>313</sup> In 1996 Netscape's market share for browsers was eighty percent, and Microsoft's was five percent. See Robin Cooper Feldman, *Defensive Leveraging in Antitrust*, 87 GEO. L.J. 2079, 2097 (1999). Netscape's market share has since dropped to approximately fifty-five percent. See Kara Swisher, *Online: After a Life at Warp Speed, Netscape Logs Off*, WALL ST. J., Nov. 25, 1998, at B1. Microsoft now holds approximately fifty percent of the market. See *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9, 86 (D.D.C. 1999).

<sup>314</sup> There is, of course, debate as to what markets are influenced by network effects. See generally Lemley & McGowan, *supra* note 4 (discussing network effects in different industries, including computer, ATM and credit card networks, and intellectual property).

2. *Limited Scope of Licenses.* The second general principle in the *Microsoft* decree, that a licensor cannot require the licensee to use other products of the licensor, or *not* use products of the licensor's competitors, also has applicable benefits in a network economy. Because network effects cause monopoly power to occur at a lower market share than in traditional industries, an entrenched market position is essentially awarded to the first to establish a dominant product. A downside of network effects is that the dominant product will not necessarily be the best product in terms of quality.<sup>315</sup> However, by taking action to prevent a dominant player from locking itself into the market through restrictive licensing, markets will be more open and receptive to new technologies and competitors.

Microsoft sought to expand its market power by giving OEMs what was essentially a take-it-or-leave-it license. Microsoft was able to get away with these adhesion tactics because of OEMs' dependency on Microsoft. This dependency was fostered because of network effects. An OEM that wanted to sell its machines had no commercially viable option other than to use the Microsoft operating system, and no other commercially viable options could be created while OEMs were strapped to the Microsoft standard.<sup>316</sup> Microsoft's unilateral agreement to allow all OEMs greater freedom in licensing arrangements will help loosen Microsoft's grip on the industry, thereby increasing new products and competition. The fact that this aspect of the Microsoft consent decree was ambiguous enough to lead to the later contempt action does not decrease its value to the market.

3. *No Intellectual Property Coercion.* The *Intel* decree prohibits cutting off prerelease information to a supplier if the parties were engaged in an intellectual property dispute. Such disputes would generally take the form of alleged patent infringement or disagreements centered around license or contract provisions. It is likely that attempts by a dominant competitor to obtain another's intellectual property, either outright or through licenses,

---

<sup>315</sup> See John E. Lopatka & William H. Page, *A (Cautionary) Note on Remedies in the Microsoft Case*, ANTITRUST, Summer 1999, at 25, 27.

<sup>316</sup> OEMs were essentially in a "catch-22" scenario. If they agreed to Microsoft licenses, competition would be stymied. If they did not agree to Microsoft licenses, they would be out of business. See, e.g., JOSEPH HELLER, CATCH-22 (1985). The classic "catch-22" in Heller's book centered around a World War II bombardier who sought to be relieved from combat due to insanity. The catch was that he could not be excused unless he asked to be excused, and anybody who asks to be excused from combat is obviously sane and therefore, ineligible to be excused.

will continue.<sup>317</sup> In the current environment, many companies regularly enter into cross-licensing agreements with rivals for their own self benefit.<sup>318</sup> These agreements run without issue when the parties are on equal footing. However, as in the *Intel* case, where a dependent relationship exists, opportunities for coercion are created that otherwise would not exist. Intergraph chose not to license its patents to Intel, and because of that business decision, has so far spent two years in litigation.

By applying this provision to technology companies in network economies once a forty percent market share is achieved, markets will not automatically become dominated by a single entity. While recognizing the benefits of having certain industries operate with a common standard, this does not mean that only one company has to set and control the standard.<sup>319</sup>

<sup>317</sup> This is especially true after the Federal Circuit Court of Appeals decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 47 U.S.P.Q.2d (BNA) 1596 (Fed. Cir. 1998). The decision unequivocally opened the door for business method patents, which are increasingly being used to patent software. See *id.* at 1375.

For example, Internet booksellers Amazon.com and BarnesandNoble.com are squaring off over software that allows customers to more conveniently make purchases. See Erich Luening, *Amazon wins first round in Barnesandnoble.com suit* (Dec. 2, 1999) <<http://news.cnet.com/news/0-1007-200-1476392.html?tag=st.ne.1002>>. The patent in question, Pat. No. 5,960,411, is available for review at U.S. Patent & Trademark Office (visited Jan. 14, 2001) <<http://164.195.100.11/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=/netahtml/srchnum.htm&r=1&f=G&l=50&s1=5960411.WKU&OS=PN/5960411&RS=PN/5960411>>.

A similar battle is brewing between Priceline.com, Inc. and Microsoft, Inc. and Expedia, Inc. over the use of "name your price" software. See Troy Wolverton, *Expedia price-matching tool debuts despite Priceline suit* (Dec. 9, 1999) <<http://news.cnet.com/news/0-1007-200-1490013.html?tag=st.ne.1002>>.

<sup>318</sup> See Mark A. Lemley & David W. O'Brien, *Encouraging Software Reuse*, 49 STAN. L. REV. 255, 295-96 & n.260 (1997) (arguing for routine licensing of software patent rights in order to prevent large companies from "locking up" rights to produce integrated software systems); see also Joel I. Klein, Assistant Attorney General, Cross-Licensing and Antitrust Law, Address Before the American Intellectual Property Law Association (May 2, 1997) (transcript available at <<http://www.usdoj.gov/atr/public/speeches/1123.htm>>) :

[C]ross-licenses can have anticompetitive effects, too, including increased prices, cutbacks in production, and reduced innovation. This is particularly true when the cross-license is between firms that are competitors, whether in producing goods or services, licensing intellectual property, or in R&D. In that case, our antitrust antennae go out: we have to be alert to the possibility that the cross-license can serve the interests of the parties, at the expense of competition and consumers.

*Id.*

<sup>319</sup> For example, the music industry has worked with manufacturers of portable music players, such as the Diamond Rio, that play downloaded MP3 files off the Internet, to develop SCMS, a technology that is intended to prevent a recording device from copying unauthorized, multigenerational copies of copyrighted digital audio recordings. Similarly, the music industry cooperatively developed MIDI, a standard language that allows music to be converted into digital data.



However, this was exactly the result in the microprocessor industry. Once Intel became the significant supplier of microprocessors for personal and business computers, other industries that competed against, or worked with Intel, recognized that cooperation with Intel's wishes was necessary to stay in the industry—even if it meant giving up control over its own intellectual property. However, by applying the *Intel* policy against terminating a relationship once a dispute has begun, advanced products and new companies will be better able to enter the market.

#### B. EARLIER ANTITRUST INVOLVEMENT

The key to breaking the cycle of network effects in the technology industry is to restrain companies from acquiring monopoly power before network effects occur. Once a company becomes the dominant entity in the market, rebalancing the market becomes extremely difficult. Traditionally, a company does not register on the antitrust radar until market share reaches at least sixty percent. However, when network effects are present, this is too late. While Microsoft and Intel were moving towards capturing forty percent of the market, markets were open to different competitors and products. However, as each company reached the forty percent market share plateau, network effects caused the market share to increase by over one hundred percent.

The principles set forth in the *Microsoft* and *Intel* consent decrees are fair and reasonable standards for the industry. If they are applied at the appropriate time, the likelihood of antitrust violations and harmful market activity will be decreased. Most importantly, consumers will benefit through greater market advancements and more competitive prices.

#### C. ACTIVITY WITHIN FTC OVERSIGHT

In order to prevent monopolies in technology markets, the FTC should implement policies to prevent monopolies before a company becomes entrenched in a particular market. The actions taken by the government against Microsoft and Intel were necessary to keep competition thriving. These actions should also serve as the basis of a new FTC policy, whereby once a technology company achieves an approximate forty percent market share, the company would agree to be bound by certain restrictions. Based

on the *Microsoft* and *Intel* consent decrees, these restrictions can be categorized into three areas: licensing, conduct, and structure.

1. *Licensing.* License restrictions have proven to be an effective means of maintaining control over another company. In order to prevent technology monopolies, the FTC should stop licensing activity that has the potential to restrict competition. In particular, the FTC should: (1) limit the length of licenses to one year or less; (2) require that software license fees be based solely on the licensed product, and not based on hardware sales; and (3) prevent the receiving of a license that is conditioned upon licensing or using—or not licensing or using—any other product.

2. *Conduct.* The corporate conduct of *Microsoft* and *Intel*, as well as other powerhouses in technology markets, has allowed these companies to advance their goals. However, the advancement comes at the cost of increased competition and innovation. Therefore, the FTC should guard against further conduct that restricts competitive markets. In particular, the FTC should: (1) prevent companies from punishing competitors that do not renew licenses and (2) disallow a company to base a grant of technological information on the receiver's behavior towards the grantor, or a third-party.

Technology companies have engaged in other behavior that, in order for competition to thrive, should be guarded against. The FTC should limit manufacturers from giving retailers a product, such as compact discs, that contains hyperlinks to the manufacturer's web site, particularly when the manufacturer and retailer compete for the same customers.<sup>320</sup> Another practice that tends to reinforce market share while stifling competition is where a patent holder intentionally changes the design of a product merely to harm a competitor that manufactures a companion part.<sup>321</sup>

3. *Structure.* The most significant and necessary structural restraint the FTC can impose involves preventing mergers or acquisitions between

---

<sup>320</sup> For example, the National Association of Recording Merchandisers (NARM) sued the Sony Corporation because Sony put links for its own Internet consumer site, and no others, on compact discs. When a consumer puts the compact disc in a computer's CD drive, a link is provided to a Sony site where consumers can purchase other Sony products. Retailers objected to being unable to sell CDs without the link, because the links diverted consumers away from the retailers' own sites. See *Music Retailers Sue Sony Music to Halt Pirating Away Customers* (visited Jan. 14, 2001) <<http://www.narm.com/news/Press%20Release/Sony%20Lawsuit%20press%20Release.htm>>. A copy of the complaint is available at <<http://www.narm.com/news/lawsuit.pdf>>.

<sup>321</sup> See, e.g., *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340 (Fed. Cir. 1998).

companies where the purpose of the deal is to "buy the technology."<sup>322</sup> For example, since 1998, Microsoft has purchased more than ten software companies.<sup>323</sup> The result of these purchases is that Microsoft is able to essentially lock up the technology. Other companies, with far less resources than Microsoft, will cease their own development efforts once a company like Microsoft acquires the technology, because once Microsoft enters the market, opportunities for smaller companies will disappear.

## V. CONCLUSION

Rather than view antitrust and intellectual property at odds with each other, an alternative description is to view each as a check and balance on the other.<sup>324</sup> Antitrust is intended to keep markets open, but not at the risk of destroying creative incentives. Intellectual property is intended to encourage creation and protect the benefits of the work for the creator, but not to the point of damaging or limiting creation by others.

The United States is currently in the midst of a technology revolution, unlike anything seen since the industrial revolution.<sup>325</sup> Just as antitrust law played a significant role in shaping the markets of that time, antitrust can no longer be dormant in facing today's challenges.<sup>326</sup> By adjusting to how

<sup>322</sup> A repeated critic of Microsoft's strategy of buying technology is Sun Microsystems. Its Chief Financial Officer stated that, "Microsoft should be restricted from buying technologies and locking them into Windows." *Microsoft Verdict Won't Affect Java Case*, NEWSWIRE, Apr. 6, 2000. Sun's general counsel stated that, "Microsoft should be barred from using its vast cash to buy up competing technologies as well as companies it then compels to use its software." Frank James, *Microsoft is Ruled an Illegal Monopoly*, CHI. TRIB., Apr. 4, 2000 at 1.

<sup>323</sup> See Jube Shiver, Jr., *Microsoft Settlement Talks End in Failure Antitrust*, L.A. TIMES, Apr. 2, 2000, at A1. The companies include: (1) Softway Systems, see Ben Heskett, *Short Take: Microsoft buys maker of Unix-based software* (Sept. 21, 1999) <<http://news.cnet.com/news/0-1003-200-121678.html?tag=st.ne.1002>>; (2) ShadowFactor Software, see Reuters, *Short Take: Microsoft buys Internet gamer* (June 7, 1999) <<http://news.cnet.com/news/0-1003-200-343312.html?tag=st.ne.1002>>; (3) Interactive Objects, see Bloomberg News, *Microsoft buys audio software* (Apr. 27, 1999) <<http://news.cnet.com/news/0-1006-200-341734.html?tag=st.ne.1002>>; and (4) Numinous Tech, see Reuters, *Microsoft buys Numinous Tech* (Mar. 26, 1999) <<http://news.cnet.com/news/0-1003-200-340452.html?tag=st.ne.1002>>.

<sup>324</sup> See, e.g., Willard K. Tom & Joshua A. Newberg, *Antitrust and Intellectual Property: From Separate Spheres to Unified Field*, 66 ANTITRUST L.J. 167 (1997).

<sup>325</sup> See generally Philip Harvey, *Joblessness and the Law Before the New Deal*, 6 GEO. J. ON POVERTY L. & POL'Y 1, 22 n.106 (1999) (dating the industrial revolution as beginning "in England in the late 18th century and spread[ing] to other countries, including the United States, in the 19th century").

<sup>326</sup> See Mark F. Radcliffe, *The Future of Computer Law: Ten Challenges for the Next Decade*, COMPUTER LAW., Aug. 1991, at 1, 10.

**network effects shape the technology industries, antitrust law can best keep markets open and competitive in the future.**

