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FINAL VERSION Nos. 00-5212, 00-5213

IN THE UNITED STATES COURT OF APPEALS FOR THE
DISTRICT OF COLUMBIA CIRCUIT

UNITED STATES OF AMERICA and STATE OF NEW YORK, *et al.*,

Plaintiffs-Appellees

v.

MICROSOFT CORPORATION,

Defendant-Appellant

ON APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

BRIEF FOR APPELLEES UNITED STATES AND THE STATE PLAINTIFFS

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CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

A. All parties, intervenors and amici appearing before the district court and in this court are listed in the Brief for Appellant.

B. References to the rulings at issue appear in the Brief for Appellant.

C. This case was previously before this Court in Nos. 98-5399 and 98-5400, *United States v. Microsoft Corp.*, 165 F.3d 952 (D.C. Cir. 1999).

There are no other related cases currently pending in this Court or in any other court.

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TABLE OF AUTHORITIES

Cases

(Authorities upon which we chiefly rely are marked with an asterisk)

Statutes & Rules

Treatises & Other Authorities

GLOSSARY

ACT	Amici Association for Competitive Technology and Computing Technology Industry Association
ACT Br.	ACT’s amicus brief, November 27, 2000.
AOL	America Online, Inc., an online service (OLS). FF 15 (JA 2252).
API	Application programming interface. APIs “exposed” by a computer program, such as an operating system or middleware, provide other computer programs with means of access to blocks of code that perform particular tasks, such as displaying text on the computer screen. FF 2 (JA 2250).
CL	Conclusions of law. The district court's April 3, 2000 order, 87 F. Supp. 2d 30 (D.D.C. 2000) (JA 2410-37).
DX	Defendant's exhibit in the district court.
FF	Findings of fact. The district court's November 5, 1999 order, 84 F. Supp. 2d 9 (D.D.C. 1999) (JA 2247-350).
FJ	Final Judgment, 97 F. Supp. 2d 59, 63-74 (D.D.C. 2000) (JA 2845-56).
GX	Plaintiffs' exhibit in the district court.
Hollaar Br.	Amicus brief of Dr. Lee Hollaar, December 27, 2000.
HTML	Hypertext Markup Language. The language to create Web pages with hyperlinks and markup for formatting. FF 233 (JA 2305).
IAP	Internet access provider. Includes ISPs and OLSs, which provide computer users with access to the Internet. FF 15 (JA 2252).
ICP	Internet content provider. Individuals and organizations that have established a presence, or “site,” on the Web by publishing a collection of Web pages. FF 13 (JA 2252).
IE	Internet Explorer, Microsoft's Web browser. FF 17 (JA 2252).
Intel-compatible PC	A PC designed to use a microprocessor in, or compatible with, Intel's 80x86/Pentium microprocessor family. FF 3 (JA 2250-51).
Internet	A global electronic network of computers. FF 11 (JA 2251).

ISP	Internet service provider, such as MindSpring or Netcom, which provides Internet access to subscribers. FF 15 (JA 2252).
ISV	Independent software vendor. A developer of applications. FF 28 (JA 2255).
Java	A programming language and related middleware that enable applications written in that language to run on different operating systems. FF 73 (JA 2267).
JVM	Java Virtual Machine. A program that translates Java bytecode (which a Java compiler has produced from sourcecode written in the Java language) into instructions that the operating system can understand. FF 73 (JA 2267).
Middleware	Software that relies on the APIs provided by the operating system on which it runs, but also exposes its own APIs. FF 28 (JA 2255).
MS Br.	Microsoft's opening brief in this Court, November 27, 2000.
Navigator	Netscape Communications Corporation's Web browser. FF 17 (JA 2252).
NSP	Native Signal Processing. NSP software enables Intel microprocessors to perform certain tasks (useful for advanced video and graphics performance) usually carried out by separate chips called "digital signal processors." FF 95 (JA 2272).
OEM	Original equipment manufacturer. FF 10 (JA 2251). In this brief, a manufacturer of PCs.
OLS	An online service that provides Internet access, various other services, and an array of proprietary content to subscribers. FF 15 (JA 2252).
OS or Operating System	A software program that controls the allocation and use of computer resources. FF 2 (JA 2250).
PC	Personal computer. A digital information processing device designed for use by one person at a time. FF 1 (JA 2250).
Platform	Software, like an operating system or middleware, that exposes APIs. FF 2, 69 (JA 2250, 2266).
Port, or Porting	Adapting an application program written for one OS to run on a different OS. FF 4 (JA 2251).
Remedy Order	District Court's June 7, 2000 decision on remedy, 97 F. Supp. 2d 59, 59-63 (D.D.C. 2000) (JA 2841-45).

RX	Plaintiffs' remedy exhibit in the district court.
Web	The World Wide Web. A massive collection of digital information resources stored on servers throughout the Internet, typically provided in the form of hypertext documents, commonly referred to as "Web pages." FF 12 (JA 2251).
Web Browser (or Browser)	Software that enables a user to select, retrieve, and perceive resources on the Web. FF 16 (JA 2252). In this brief, the term "browser" by itself means "Web browser."
Windows	A family of software packages produced by Microsoft, each including an operating system. The principal members of this family for purposes of this case are Windows 95, Windows 98, and successors, which include operating systems for Intel-compatible PCs. FF 6-8 (JA 2251).

STATEMENT AS TO STATUTES AND REGULATIONS

Pertinent statutes and regulations are bound with this brief as Addendum A. Except for the items in Addendum A, all applicable statutes, etc., are contained in the Brief for Appellant.

STATEMENT OF ISSUES

1. Whether Microsoft violated Section 2 of the Sherman Act, 15 U.S.C. 2, by engaging in a course of exclusionary conduct that protected and maintained its personal computer operating system monopoly.

2. Whether Microsoft violated Section 2 of the Sherman Act, 15 U.S.C. 2, by attempting to monopolize the market for Web browsers.

3. Whether Microsoft violated Section 1 of the Sherman Act, 15 U.S.C. 1, by tying its Internet Explorer Web browser to its Windows operating system.

4. Whether any of the district court's procedural and evidentiary rulings constituted an abuse of discretion requiring reversal of the judgment.

5. Whether the district court abused its discretion by ordering structural separation of Microsoft into two entities and transitional restrictions on its conduct.

6. Whether the district court's extrajudicial comments about the case require vacating the judgment or removing the district judge.

STATEMENT OF THE CASE

A. Introduction

The United States and numerous States (collectively, the government) sued Microsoft Corporation to enjoin it from violating antitrust laws that embody fundamental principles of lawful competition. The government proved at trial that Microsoft had engaged in a broad pattern of anticompetitive conduct to eradicate a developing threat to its monopoly power in its core business – personal computer operating systems – and that Microsoft's conduct had harmed consumers. Findings of Fact (FF), *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9 (D.D.C. 1999) (JA 2247-2350). The district court determined that Microsoft's conduct violated Section 1 and Section 2 of the Sherman Act, 15 U.S.C. 1, 2, as well as analogous state laws. Conclusions of Law (CL), *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30 (D.D.C. 2000) (JA 2410-37). The court's judgment imposed a remedy to stop the violations and restore competitive conditions in the marketplace. *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000) (Remedy Order) (JA 2841-56).

The government's case at trial – and the district court's findings of fact and conclusions of law – focused on Microsoft's unlawful campaign to maintain its monopoly power in violation of Section 2. The evidence demonstrated that Microsoft engaged not just in aggressive, lawful competition, but also in predatory conduct to thwart the development of emerging technologies that would allow "applications," such as word processors, spreadsheets, games, and other useful programs, to be written so they would run on operating systems other than Microsoft's "Windows" without costly adaptation. The evidence showed that Microsoft acted out of concern that those technologies would erode the "applications barrier to entry" that protected its Windows monopoly.

Microsoft specifically set out to protect its monopoly from erosion by two "middleware" technologies – Netscape's Navigator Web browser and Sun's Java software. Those technologies had the potential to enable software developers to design a single version of an application that would run on a wide variety of operating systems. The increased availability of software that could run on operating systems other than Windows would have made alternative operating systems more attractive to consumers and would thus have eroded Windows' market dominance. In effect, Microsoft sought by anticompetitive means to insulate its operating system monopoly from the kinds of technological and entrepreneurial changes that have characterized other parts of the industry. The evidence further established that, in the course of taking unlawful steps to maintain its Windows monopoly, Microsoft engaged in tying and in attempted monopolization of the browser market in violation of Sections 1 and 2 of the Sherman Act.

In response to the public interest in resolving this case expeditiously and in recognition of the rapid pace of technological change in software markets, the district court conducted a fair and efficient trial. The court's 412 findings of fact painstakingly and accurately describe the relevant market (FF 18-32 (JA 2252-57)), Microsoft's power in that market (FF 33-67 (JA 2257-66)), the middleware threat (FF 68-78 (JA 2266-68)), Microsoft's response to that threat (FF 79-407 (JA 2268-2348)), and the effects on consumers of Microsoft's efforts to protect the applications barrier to entry (e.g., FF 408-12 (JA 2348-50)). The court specifically found that Microsoft's conduct harmed the company's direct and indirect customers, stifled innovation, and would not have been profitable or made business sense but for its effect of maintaining Microsoft's operating system monopoly. *See, e.g.,* FF 409-12 (JA 2349-50). The court's findings of fact are supported by the extensive trial record, including a wealth of evidence from Microsoft's own contemporaneous documents. The court's findings also correctly distinguished lawful from unlawful conduct. The court imposed an appropriate remedy based on its factual findings and the circumstances before it.

Microsoft declines to acknowledge the district court's core findings of fact and instead recites, as its Statement of the Case, a sanitized description of its actions based largely on its own proposed – but rejected – findings. Microsoft, however, is not entitled to re-tender its proposed findings to this Court. Rather, this Court conducts its appellate review based on the *district court's* findings, which "shall not be set aside unless clearly erroneous." FED. R. CIV. P. 52(a). *See Anderson v. City of Bessemer City*, 470 U.S. 564, 573-74 (1985). That standard of review is dispositive of the fact-findings in this case because nowhere in its submission does Microsoft assert specifically that any fact found by the district court is clearly erroneous. The following description of the case is based on the trial proceedings and the facts found by the district court.

B. Course Of Proceedings

On May 18, 1998, the United States filed a complaint alleging that Microsoft had violated Sections 1 and 2 of the Sherman Act, 15 U.S.C. 1, 2. The opening paragraphs of that complaint describe Microsoft's "monopoly power in the market for personal computer operating systems" (US Compl. § I, ¶ 2 (JA 139)); the "high barriers to entry in [that] market" (*id.* at § I, ¶ 3 (JA 139)); the "significant potential threat to Microsoft's operating system monopoly" from new technologies (*id.* at § I, ¶ 4 (JA 139)); and the various "anticompetitive activities" that Microsoft undertook "[t]o protect its valuable Windows monopoly against such potential competitive threats, and to extend its operating system monopoly into other software markets" (*id.* at § I, ¶ 5 (JA 140)). Although the complaint further alleged that some of Microsoft's actions independently violated the antitrust laws in other respects, the core of the government's allegations was Microsoft's maintenance of its operating system monopoly. *Id.* at § I, ¶¶ 2-13 (JA 139-43). The complaint sought specific injunctive relief and "such other preliminary and permanent relief as is necessary and appropriate to restore competitive conditions in the markets affected by Microsoft's unlawful conduct." *Id.* at § VIII, ¶ 3 (JA 191). Twenty states and the District of Columbia filed a similar complaint the same day (one state later withdrew), and the district court consolidated the cases at Microsoft's request.

After extensive discovery, the court began a 78-day trial on October 19, 1998, which ended on June 24, 1999. The court heard testimony from 26 witnesses and admitted depositions of 79 other witnesses and 2733 exhibits. On November 5, 1999, the court entered its Findings of Fact (JA 2247-350). The court then ordered the parties to engage in mediation before Chief Judge Posner of the U.S. Court of Appeals for the Seventh Circuit. On April 3, 2000, after four months of intensive mediation efforts that ultimately failed, the court entered its Conclusions of Law (JA 2410-37).

The district court held that Microsoft successfully engaged in a series of anticompetitive acts to protect and maintain its personal computer operating system monopoly, in violation of Section 2 of the Sherman Act. It also concluded that Microsoft violated Section 2 by attempting to monopolize the market for Web browsers and Section 1 by tying its Web browser to its operating system. Moreover, the court found that Microsoft's conduct violated various state laws. The court rejected the government's claim that Microsoft's exclusive dealing contracts violated Section 1. (The remedy it ordered effectively terminated and prohibited such agreements, however, because they were part of the Section 2 violation.)

The court then proceeded to consider a remedy for Microsoft's antitrust violations, inviting the parties to submit proposals. After reviewing those submissions, and holding a hearing on May 24, 2000, the court noted that the government had offered "a proposed form of final judgment that would mandate both conduct modification and structural reorganization by the defendant when fully implemented." Remedy Order at 61 (JA 2843). Microsoft rejected the government's proposed remedy and requested "months of additional time to oppose the relief sought in all other respects" based on its "surprise" at the scope of the government's proposed remedy. The court explained that "Microsoft's profession of surprise is not credible. From the inception of this case Microsoft knew, from well-established Supreme Court precedents dating from the beginning of the last century, that a mandated divestiture was a possibility, if not a probability, in the event of an adverse result at trial." *Id.* The court further noted that "the Court's Findings of Fact gave clear warning to Microsoft that the result would likely be adverse, yet the Court delayed entry of its Conclusions of Law for five months" so that mediation on a remedy could occur. *Id.* "Even assuming that Microsoft negotiated in utmost good faith in the course of mediation, it had to have in contemplation the prospect that, were mediation to fail, the prevailing plaintiffs would propose to the Court a remedy most to their liking and least likely to be acceptable to Microsoft." *Id.*

On June 7, 2000, the court entered a Final Judgment (FJ) that requires Microsoft, following the conclusion of this appeal, to submit a plan to reorganize itself into two separate firms: an "Operating System Business" and an "Applications Business." The court would review that plan and the government's response prior to its implementation. The "OpsCo" would receive the operating system business and "AppsCo" would receive the rest of Microsoft's businesses. FJ § 1 (JA 2846). The Final Judgment also requires Microsoft to comply with transitional injunctive provisions until the structural remedy becomes effective. Some of those provisions terminate upon completion of the reorganization; others, three years later. FJ §§ 1.d, 3 (JA 2846, 2851). Explaining that "the proposed final judgment is represented to the Court as incorporating provisions employed successfully in the past," the court further stated that the remedy "appears to the Court to address all the principal objectives of relief in such cases, namely, to terminate the unlawful conduct, to prevent its repetition in the future, and to revive competition in the relevant markets." Remedy Order at 63 (JA 2845).

C. Statement Of Facts

The district court's detailed findings of fact show that Microsoft undertook an extensive campaign of exclusionary acts to maintain its operating system monopoly. The findings are based on the court's consideration of the entire trial record and its assessment of the credibility of the witnesses' testimony. *See* 84 F. Supp. 2d at 12 (JA 2250). The court had access to the government's 875-page proposed findings of fact, including a hyperlinked CD-ROM version, which compiled in detail the evidentiary support for the government's case. (Copies of that CD-ROM are being lodged with this Court.)

1. Microsoft's Operating System Monopoly

A personal computer (PC) is designed for use by one person at a time. It consists, *inter alia*, of central processing components (a microprocessor and main memory), software, and data storage (e.g., a hard disk). FF 1 (JA 2250).[1] The software on a PC largely consists of an operating system (OS) and applications. An application is designed to accomplish a specific task, such as word processing. The OS "controls the allocation and use of computer resources" and serves as a "platform" for applications by exposing interfaces (application programming interfaces, or APIs) that applications invoke to perform crucial tasks such as displaying text on a screen. FF 2 (JA 2250).

a. The Market

For the maintenance of monopoly and tying claims, the district court found that the relevant market for evaluating Microsoft's monopoly power was the "licensing of all Intel-compatible PC operating systems worldwide." CL at 36 (JA 2416); FF 18 (JA 2252); Fisher ¶ 62 (JA 13892). "Intel-compatible" PCs are designed to function with Intel's 80x86 and successor family of microprocessors (or compatible microprocessors). FF 3 (JA 2250-51). Operating systems designed for Intel-compatible PCs do not run on other PCs, and OSs designed for other PCs do not run on Intel-compatible PCs. FF 4 (JA 2251). Consumers are very reluctant to substitute away from Intel-compatible PCs (for any reason, including an increase in OS prices) because to do so would entail incurring substantial costs and would not result in a satisfactory substitute. FF 19-27 (JA 2252-55).[2] Thus, a monopolist of OSs for Intel-compatible PCs "could set the price of a license substantially above that which would be charged in a competitive market – and leave the price there for a

[1] For general background about the terminology and technical issues presented in the case, *see* FF 1-17 (JA 2250-52); Felten ¶¶ 11-28, Farber ¶ 11, Gosling ¶¶ 7-11, Tevanian ¶¶ 8-9, 12, Warren-Boulton ¶¶ 20-25, Barksdale ¶¶ 69-70 (JA 3009-15, 13882-83, 13944-45, 3100-02, 3172-75, 2895-96); GX 1050 (Microsoft Press Computer Dictionary) (JA 14846).

[2] *See* Schmalensee Tr. 1/14/99 am at 24, Tevanian Tr. 11/4/98 pm at 11-12 (JA 14177, 5359-60).

significant period of time – without losing so many customers as to make the action unprofitable." CL at 36 (JA 2416); FF 18 (JA 2252).[3]

The court concluded that "the proof of Microsoft's dominant, persistent market share protected by a substantial barrier to entry, together with Microsoft's failure to rebut that prima facie showing effectively and the additional indicia of monopoly power, have compelled the Court to find as fact that Microsoft enjoys monopoly power in the relevant market." CL at 37 (JA 2417), citing FF 33 (Microsoft "could charge a price for Windows substantially above that which could be charged in a competitive market") (JA 2257); *see* Fisher ¶ 62 (JA 13892).[4] The court highlighted four important factors. *First*, "Microsoft possesses a dominant, persistent, and increasing share of the worldwide market for Intel-compatible PC operating systems." FF 35 (JA 2257). "Every year for the last decade, Microsoft's share of the market for Intel-compatible PC operating systems has stood above ninety percent [and] [f]or the last couple of years, the figure has been at least ninety-five percent." *Id.*[5] Even if the market were broadened to include operating systems for the Apple Macintosh, which is not an Intel-compatible PC, Microsoft's share "would still stand well above eighty percent." *Id.*[6] *Second*, an "applications barrier to entry" prevents competitors from attracting significant consumer demand and "would continue to do so even if Microsoft held its prices substantially above the competitive level." FF 36 (JA 2257). *Third*, original equipment manufacturers of PCs (OEMs) "uniformly are of a mind that there exists no commercially viable alternative" to Windows. FF 54 (JA

[3] *See* GX 401 (JA 14601); Fisher Tr. 6/1/99 am at 27, Warren-Boulton Tr. 11/23/98 pm at 8, 9 (JA 14260, 14060-61); Warren-Boulton ¶¶ 33-41 (JA 3178-81).

[4] *See also* Fisher ¶¶ 72-78, Warren-Boulton ¶¶ 42-63 (JA 13899-901, 3182-91); Fisher Tr. 6/1/99 am at 27, Kempin Tr. 2/25/99 pm at 97-99 (JA 14260, 14251-53).

[5] *See* Fisher ¶ 64, Warren-Boulton ¶¶ 41, 45 (JA 13895, 3181, 3183); GX 1 (JA 14325).

[6] *See also* Tevanian ¶ 14, Fisher ¶ 64, Warren-Boulton ¶ 41 (JA 3102-03, 13895, 3181).

2262).[7] *Fourth*, through a range of actions over several years, "Microsoft has comported itself in a way that could only be consistent with rational behavior for a profit-maximizing firm if the firm knew that it possessed monopoly power, and if it was motivated by a desire to preserve the barrier to entry protecting that power." CL at 37 (JA 2417), citing FF 67, 99, 136, 141, 215-16, 241, 261-62, 286, 291, 330, 355, 393, 407 (JA 2266, 2273, 2282-84, 2300-01, 2307, 2312, 2318-20, 2329, 2335, 2344, 2348).[8] The court rejected Microsoft's arguments regarding alleged constraints on its monopoly power and its contentions that its pricing and innovation were inconsistent with monopoly power. CL at 37 (JA 2417); FF 57-67 (JA 2263-66).

b. The Applications Barrier To Entry

The OS serves principally two functions: It enables the computer's hardware to operate; and it serves as a platform for applications programs, such as word-processing and spreadsheets. The latter function is the source of what the district court found to be an "applications barrier to entry" that protects Microsoft's monopoly power in the OS market. FF 30-52 (JA 2256-62).

This barrier results from "an intractable 'chicken-and-egg' problem . . . . Users do not want to invest in an operating system until it is clear that the system will support generations of applications that will meet their needs, and developers do not want to invest in writing or quickly porting [i.e., adapting] applications for an operating system until it is clear that there will be a sizeable and stable market for it." FF 30 (JA 2256).[9] As the district court found, that "self-reinforcing cycle" is

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[7] *See* Norris Tr. 6/7/99 am at 66-67, Rose Tr. 2/17/99 pm at 17-20 (JA 8999-9000, 14225-28); Fisher ¶ 63, Rose ¶ 17 (JA 13892-95, 4006).

[8] *See* Warren-Boulton ¶ 195, Fisher ¶¶ 127-29, 241(JA 3249, 13921-23, 13941-42); Tr. 6/1/99 am at 37-38, 39-40, 60-62 (JA 14261-64, 14270-72).

[9] *See* FF 31-32, 36-52 (JA 2256-62); GX 679 at 8 (JA 14775); Gosling ¶¶ 15, 18, Tevanian ¶ 15, Fisher ¶¶ 66-70, Warren-Boulton ¶¶ 53, 54, 57 (JA 13948-49, 3103, 13895-97, 3186-88); Tr. 1/13/99 at 298 (Von Holle Dep.) (JA 14132).

sometimes referred to as the "network effect," a "phenomenon by which the attractiveness of a product increases with the number of people using it." FF 39 (JA 2258).

The applications barrier to entry increases the dependence of both consumers and software developers on Windows and thus perpetuates Microsoft's OS monopoly.[10] For consumers, the applications barrier to entry limits the choice of an operating system. "The consumer wants an operating system that runs not only types of applications that he knows he will want to use, but also those types in which he might develop an interest later." FF 37 (JA 2257). "The fact that a vastly larger number of applications are written for Windows than for other PC operating systems attracts consumers to Windows, because it reassures them that their interests will be met as long as they use Microsoft's product." *Id.* (JA 2258). "The overwhelming majority of consumers will only use a PC operating system for which there already exists a large and varied set of high-quality, full-featured applications, and for which it seems relatively certain that new types of applications and new versions of existing applications will continue to be marketed at pace with those written for other operating systems." FF 30 (JA 2256).[11]

For software developers, the applications barrier to entry creates disincentives to write programs for operating systems other than Microsoft's. "An application that is written for one PC operating system will operate on another PC operating system only if it is ported to that system, and porting applications is both time-consuming and expensive." FF 38 (JA 2258).[12] Consequently, applications developers "tend to write first to the operating system with the most users – Windows" – and will

[10] *See* GX 510 at MS7 004130 (Chase) (JA 14669); Kempin Tr. 2/25/99 pm at 98-99, Rose Tr. 2/17/99 pm at 19-20, 24-25 (JA 14252-53, 14227-30); Fisher ¶ 71 (JA 13897-99).

[11] Tr. 1/13/99 at 717-18 (Slivka Dep.), Tevanian Tr. 11/4/98 pm at 11-12 (JA 14172-73, 5359-60); Warren-Boulton ¶ 53 (JA 3186); GX 523 at MS98 0103654 (JA 14708).

[12] *See* Gosling ¶¶ 10-12, Barksdale ¶ 75 (JA 13945-46, 2899).

write applications for other operating systems "only to the extent that the marginal added sales justify the cost of porting." *Id.*[13]

For competitors, the applications barrier to entry causes "a vicious cycle. For just as Microsoft's large market share creates incentives for ISVs [independent software vendors] to develop applications first and foremost for Windows, the small or non-existent market share of an aspiring competitor makes it prohibitively expensive for the aspirant to develop its PC operating system into an acceptable substitute for Windows." FF 40 (JA 2258). Accordingly, "there is a strong chance that the new operating system could stall; it would not support the most familiar applications, nor the variety and number of applications, that attract large numbers of consumers." FF 42 (JA 2259).[14]

2. Combating The Middleware Threats

Although an operating system serves as a platform for applications, the terms "OS" and "platform" have distinct meanings. As Microsoft's economist put it, "conceptually, there is a difference, and an important difference," between OSs and platforms. Schmalensee Tr. 6/21/99 am at 19-20 (JA 9462-63). A platform need not drive the computer's hardware directly, so long as it properly functions with an OS that does. And an OS need not provide the APIs that support a particular application, so long as a platform that operates on the OS provides the APIs that allow that program to run.

A "middleware" program is not an operating system; rather, it is platform software that runs on top of an operating system – i.e., uses OS interfaces to take advantage of the operating system's code and functionality – and simultaneously exposes its own APIs so that applications can run on the

[13] *See* Harris ¶ 25, Barksdale ¶¶ 71-73, Gosling ¶¶ 13-14, Fisher ¶¶ 70-71 (JA 3057, 2896-98, 13946-47, 13897-99).

[14] *See* Warren-Boulton ¶ 57, Fisher ¶ 43 (JA 3188, 13890-91); Fisher Tr. 6/1/99 am at 52-56, Warren-Boulton Tr. 11/24/98 am at 52-53, Schmalensee Tr. 1/14/99 am at 34 (JA 14265-69, 14063-64, 14179).

middleware itself. An application written to rely exclusively on a middleware program's APIs could run on all OSs on which that middleware runs. FF 68, 29 (JA 2266, 2256); Tevanian ¶ 45 (JA 3113). Applications developers would have incentives to write for widely used middleware; and, if the middleware ran on a variety of operating systems, users would not be reluctant to choose a non-Windows operating system for fear that it would run an insufficient array of applications. FF 29, 68 (JA 2256, 2266); Fisher ¶¶ 86, 89 (JA 13905, 13908-09). As Microsoft acknowledges, if middleware became a leading development platform, operating systems could become "commodities," i.e., essentially fungible, and Windows would lose the benefits of the applications barrier to entry that has protected its monopoly. MS Rev. Prop. FF ¶ 214 (JA 1663).[15]

Microsoft "was concerned with middleware" because middleware could weaken the applications barrier and thereby threaten the dominance of Windows. FF 68-78, 29 (JA 2266-68, 2256). Microsoft focused "on two incarnations of middleware that, working together, had the potential to weaken the applications barrier severely without the assistance of any other middleware. These were Netscape's Web browser and Sun's implementation of the Java technologies." FF 68 (JA 2266).[16]

a. The Attempt To Obtain Agreement With Netscape

In December 1994, Netscape first marketed a Web browser called Navigator. A Web browser is "software that, when running on a computer connected to the Internet . . . enables a user to select, retrieve, and perceive resources on the [World Wide] Web." FF 16 (JA 2252); GX 1050 at 505 (JA 14847); Farber ¶ 11 (JA 13882-83). Within months, Navigator was the preeminent Web

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[15] *See* Maritz ¶ 236 (JA 3729); GX 21 at MS98 0102395, GX 521 at MS98 0103337 (JA 9882, 14702); Maritz Tr. 1/28/99 am at 56-57, Tr. 1/13/99 at 724 (Slivka Dep.) (JA 7826-27, 14174).

[16] *See* FF 69-77 (JA 2266-68); GX 20 (JA 9872); Tr. 1/13/99 at 460-61, 502-07 (Gates Dep.), Maritz Tr. 1/28/99 am at 56-57, Tr. 1/13/99 at 578 (Jones Dep.), Tr. 1/13/99 at 637-38 (Mehdi Dep.), Muglia Tr. 2/26/99 pm at 4 (JA 14145-52, 7826-27, 14155, 14162-63, 14256); Fisher ¶ 88 (JA 13906-08); GX 42 at MS6 6010347 (JA 14366).

browser; and Microsoft soon saw it as a threat to the OS monopoly. FF 72 (JA 2267). In May 1995, Microsoft CEO Bill Gates wrote to Microsoft executives that Netscape was "pursuing a multi-platform strategy where they move the key API into the client [the Web browser] to commoditize the underlying operating system." *Id.*; GX 20 at MS98 0112876.3 (JA 9875). As the court found, "[b]y the late spring of 1995, the executives responsible for setting Microsoft's corporate strategy were deeply concerned that Netscape was moving its business in a direction that could diminish the applications barrier to entry." FF 72 (JA 2267).[17] Microsoft thus decided to eliminate the threat that Navigator would become a viable alternative platform for applications. FF 133, 142 (JA 2281, 2284); GX 521 (JA 14702); Fisher ¶¶ 91-92 (JA 13910-11).

The court found that Microsoft first tried to reach an agreement with Netscape in June 1995, which the court called a "market allocation" agreement, pursuant to which Netscape would have stopped efforts to develop Navigator into "platform-level" (i.e., API-exposing) browsing software for the Windows 95 operating system that was to be released later that summer; in return, Microsoft would refrain from competing with Netscape in developing browsers for other OSs. CL at 45 (JA 2425); FF 79-89 (JA 2268-71); *see, e.g.*, GX 540 at MS98 0010341 (Maritz: "we . . . hoped . . . to leverage a relationship with Netscape . . . whereby they would be prepared to cede the client [browser] to us") (JA 14735).[18]

Microsoft "warned" Netscape that timely access to critical technical information about Windows APIs – information that Netscape needed to make its browser run well on Windows 95 – depended

[17] *See* GX 523 at MS98 0103658, GX 407 at MS6 5005709, GX 21 at MS98 0102395, 0102397 (JA 14712, 14618, 9882, 9884).

[18] *Accord* GX 540 at MS98 0010342, GX 536 at MS98 0009585 (JA 14736, 14725); Tr. 1/13/99 at 581-82 (Jones Dep.), Tr. 10/27/98 am at 39-40 (JA 14156-57, 5131-32); GX 18, 24, 27, 501, 535, 537, 557, 952, 953, GX 331 at MS98 0103672, GX 25 at MS98 0009973, GX 33 at NSC 017098-100 (JA 14330, 14334, 14340, 14664, 14720, 14729, 14738, 14832, 14834, 14562, 14339, 14341-43).

on its acquiescence. FF 82, 84, 90-91 (JA 2269-71).[19] Had Netscape acquiesced in Microsoft's proposal, it would have become "all but impossible" for Navigator or any other browser rival to pose a platform threat to Windows. FF 89 (JA 2271); Fisher ¶ 99, Warren-Boulton ¶ 88 (JA 13912, 3202).

Netscape did not accept Microsoft's proposal. FF 87 (JA 2270-71). In response, Microsoft withheld from Netscape crucial Windows-related technical information that it routinely provided to others, and delayed the provision of necessary APIs, so that "Netscape was excluded from most of the holiday selling season." FF 91 (JA 2271); *see also* FF 87, 90-92 (JA 2270-72); Barksdale ¶ 114 (JA 2922); GX 241 (JA 14504).[20] Compare MS Br. 28-29. Moreover, "[o]nce it became clear to senior executives at Microsoft that Netscape would not abandon its efforts to develop Navigator into a platform, Microsoft focused its efforts on ensuring that few developers would write their applications to rely on the APIs that Navigator exposed." FF 133 (JA 2281).

b. Denying Netscape Access To Crucial Channels Of Distribution

Microsoft understood that software "[d]evelopers would only write to the APIs exposed by Navigator in numbers large enough to threaten the applications barrier if they believed that Navigator would emerge as the standard software employed to browse the Web." *Id.*; GX 498 at MS98 0168614 (JA 14662). If Microsoft could demonstrate that Netscape would not become the standard and that Microsoft's browser, Internet Explorer (IE), would meet or exceed Netscape's browser usage share, developers would continue to focus their efforts on the Windows platform. FF 133

[19] GX 33, 34 (JA 14341, 14348); Barksdale ¶¶ 25, 106, 110-12 (JA 2873-74, 2916-21); Tr. 10/27/98 am at 53-54 (JA 5145-46); DX 2555 at 429-30 (JA 12718-19).

[20] GX 243, 248 (JA 14507, 14510); Barksdale ¶¶ 207-09, 213 (JA 2961-64); Tr. 10/22/98 pm at 53, Tr. 10/26/98 pm at 59-67 (JA 5063, 13989-97).

(JA 2281).[21] To protect the applications barrier to entry, therefore, Microsoft embarked on a multifaceted campaign to maximize IE's share of usage and to minimize Navigator's. *Id.*[22] Between 1995 and 1999, Microsoft spent more than $100 million each year and increased from five or six to more than a thousand the number of developers working on IE, even though the company has given IE away free since its initial release in July 1995. FF 135-39 (JA 2281-83).[23]

"Decision-makers at Microsoft worried that simply developing its own attractive browser product, pricing it at zero, and promoting it vigorously would not divert enough browser usage from Navigator to neutralize it as a platform." FF 143 (JA 2284). Thus, rather than confine itself to improving and promoting IE as a competitor to Navigator (*see* MS Br. 30-32), Microsoft decided "to constrict Netscape's access to the distribution channels that led most efficiently to browser usage": installation by OEMs on new PCs and distribution by Internet access providers (IAPs). FF 143-45 (JA 2284-85); Barksdale ¶¶ 227-30 (JA 2972-74); Schmalensee Tr. 1/19/99 pm at 50 (JA 14181); GX 515 (JA 14697). Users rarely switch from "whatever browsing software is placed most readily at their disposal," usually the browsing software installed on their computer by the OEM or supplied by their Internet access provider when they sign up for Internet service. FF 144-47, 356 (JA 2284-85, 2335).[24] Microsoft thus sought to "ensure that, to as great an extent as possible, OEMs and IAPs bundled and promoted Internet Explorer to the exclusion of Navigator." FF 148 (JA 2286);

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[21] GX 39 at MS6 5005719-20, GX 42 at MS6 6010346, GX 296, GX 56 at TXAG 0009634 (JA 14354-55, 14365, 14534, 14391).

[22] GX 511, GX 432 (sealed), GX 56 at TXAG 0009635, GX 296, GX 42 at MS6 6010346 (JA 14687, 17002, 14392, 14534, 14365).

[23] Fisher ¶¶ 122-23, Schmalensee ¶ 211 (JA 13917-18, 4299-300); Schmalensee Tr. 1/20/99 am at 21, Maritz Tr. 1/26/99 pm at 18-22 (JA 14183, 14199-203); GX 112 (JA 14407).

[24] GX 93, 204, 233 at MS98 0125655 (JA 14404, 14468, 14484); Barksdale ¶ 125, Harris ¶ 92, Fisher ¶ 214 (JA 2927-28, 3085, 13936-37).

see, e.g., GX 204 (Microsoft recognizing that users will never switch from Navigator unless IE is bundled with Windows), GX 93, GX 510 at MS7 004129 (Microsoft recognizing importance of Internet service providers) (JA 14468, 14404, 14668).

(i) Excluding Navigator From The OEM Channel

Microsoft's campaign to foreclose Netscape from the OEM channel involved a "massive and multifarious investment" in a "complementary set of tactics": (1) Microsoft "forced OEMs to take Internet Explorer with Windows and forbade them to remove or obscure it," which not only ensured the presence of IE on PC systems, but also "increased the costs attendant to pre-installing and promoting Navigator"; (2) Microsoft "imposed additional technical restrictions to increase the cost of promoting Navigator"; (3) Microsoft offered OEMs valuable consideration for commitments to promote IE to the exclusion of any other browser; and (4) Microsoft "threatened to penalize individual OEMs that insisted on pre-installing and promoting Navigator." FF 241 (JA 2307). The district court found that "Microsoft's campaign to capture the OEM channel succeeded." *Id.*

(a) Contractual Restrictions And Coercion Of OEMs

Microsoft knew that it could not win the browser war on the merits, so it set out to impose contractual restrictions on OEMs that interfered with their ability to distribute Navigator. FF 157-58 (JA 2287). Although Microsoft's OEM licenses had required that computer makers not delete or modify any part of what Microsoft defined to be "Windows," that requirement had not been strictly enforced. FF 204 (JA 2297). Beginning in July 1995 with the first Windows 95 contracts, however, Microsoft defined "Windows" to include early versions of IE that were entirely separate from the OS but that Microsoft insisted on distributing with it. FF 158, 175 (JA 2287, 2291). And, unlike its earlier flexible practices, Microsoft prevented unauthorized deletions or modifications by OEMs. FF 204 (JA 2297). Microsoft prohibited OEMs from deleting IE, even though it provided an

Add/Remove capability in Windows 95 that it promoted to *users* precisely for that purpose. FF 165, 175-76 (JA 2288-89, 2291); GX 164, GX 352 (Microsoft Web pages telling users that "IE Uninstalls Easily" and how to do it) (JA 14436, 14581).

Microsoft "knew that the inability to remove Internet Explorer made OEMs less disposed to pre-install Navigator onto Windows 95" because installing Navigator in addition to IE would lead to confusion among some users, consume disk space, and increase testing and support costs to OEMs, which operate at such low margins that three support calls can make a PC sale unprofitable. FF 159, 210 (JA 2287-88, 2298-99).[25] The court rejected Microsoft's contrary assertions (*see* MS Br. 108) that rely on self-contradictory testimony from its witnesses. *See, e.g.*, Kempin Tr. 2/25/99 am at 55, Tr. 2/25/99 pm at 60-64 (Kempin acknowledging Gateway raised concerns about user confusion and greater support costs, and Microsoft recognized that installation of second browser increases OEM costs), Rose Tr. 2/18/99 pm at 45-48 (conceding that loading two applications with similar functions adds to costs, confusion, and complexity) (JA 14244, 14246-50, 14236-39).

Microsoft's restrictions on OEMs went further. Microsoft feared that OEMs might promote the use of Navigator rather than IE by configuring the icons on the initial Windows desktop screen or the "Start" menu entries, or arranging the Windows boot (start-up) sequence. FF 202-03 (JA 2296-97).[26] Microsoft thus "threatened to terminate the Windows license of any OEM" that made such changes or added "programs that promoted third-party software to the Windows 'boot' sequence." FF 203 (JA 2297).[27] Microsoft also offered OEMs valuable incentives and discounts to promote IE and limit

[25] *See* Tr. 1/13/99 at 304-05, 310-12 (Von Holle Dep.), Tr. 2/18/99 am at 61-63 (Decker Dep.), Tr. 12/16/98 am at 17 (Kies Dep.) (JA 14133-37, 14232-34, 14095); Weadock ¶ 39 (JA 13971-75).

[26] *See* Kempin Tr. 2/25/99 am at 43 (JA 14243); GX 295 (Gates memo), 297 (JA 14533, 14535).

[27] *See also* FF 204-07 (JA 2297-98); Schmalensee Tr. 1/20/99 am at 33-35 (JA 14184-86); GX 649-50, 645, 301, 304, 1129 at MSV 0005245, 647 at MSV 0002127 (sealed), 1183 at MS98 0009095-96 (sealed), 458 at MS98 0009146 (sealed) (JA 14758, 14760, 14757, 14537, 14543, 14883, 17048,

distribution of Navigator. FF 142, 233-34 (JA 2284, 2305-06). Microsoft exploited Compaq's dependency on Windows, for example, to compel Compaq to commit to IE and to "curtail its distribution and promotion of Navigator." FF 232-34 (JA 2305-06); GX 1155 (sealed), 464 (sealed) (JA 17093, 17043). And it penalized IBM and Gateway in various ways when they declined such an alliance. FF 235-38 (JA 2306); GX 257 (Gates email), GX 308 (JA 14511, 14550).

The court found that these licensing and coercive measures, which "guaranteed the presence of Internet Explorer on every new Windows PC system," had no technical justification. FF 158, 175-76 (JA 2287, 2291).[28] The forbidden OEM conduct, although facilitating the distribution of Navigator, "would not compromise the quality or consistency of Windows any more than the modifications that Microsoft currently permits." FF 221-23 (JA 2302-03).[29] And, because it would not have "removed or altered any Windows APIs," it would not have interfered with the Windows platform or impaired any operating-system function. FF 226 (JA 2304); Warren-Boulton ¶ 180 (JA 3244). "Finally, it is significant that, while all vendors of PC operating systems undoubtedly share Microsoft's stated interest in maximizing consumer satisfaction, the prohibitions that Microsoft imposes on OEMs are considerably more restrictive than those imposed by other operating system vendors." FF 229 (JA 2304); *see* p. 23 n.40, *infra*.

Microsoft's OEM restrictions harmed consumers who preferred Windows with Navigator or with no browser at all, harmed the OEMs who wanted to serve the "[m]any consumers [who] desire to

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17104-05, 17032).

[28] *See* GX 36 (JA 14351); Weadock Tr. 11/16/98 pm at 92 (JA 5940); Felten ¶¶ 21-22, Fisher ¶ 159 (JA 3012, 13927).

[29] *See* Kempin ¶¶ 17-22, 46, 57-58 (JA 3612-14, 3624-25, 3628-29); GX 379, 304 (JA 14600, 14543); Norris Tr. 6/7/99 pm at 62-63 (JA 14291-92).

separate their choice of a Web browser from their choice of an operating system,"[30] and "stifled innovation by OEMs that might have made Windows PC systems easier to use and more attractive to consumers." FF 151, 241, 203 (JA 2286, 2307, 2297).[31] "By constraining the freedom of OEMs to implement certain software programs in the Windows boot sequence, Microsoft foreclosed an opportunity for OEMs to make Windows PC systems less confusing and more user-friendly, as consumers desired." FF 410 (JA 2349); Tr. 12/16/98 pm at 41-42 (as "direct result" of Microsoft's restrictions, Hewlett-Packard's "support calls went up by approximately ten percent") (Romano Dep.) (JA 14099-100).[32]

Computer makers acquiesced in Microsoft's demands because "they had no commercially viable alternative to pre-installing Windows 95 on their PCs." FF 158 (JA 2287); Schmalensee Tr. 1/20/99 am at 33-34 (JA 14184-85); GX 309 (JA 14551). But Microsoft's tactics "soured" its relations with OEMs and reduced the value of Microsoft's products to both end users and OEMs. "Microsoft would not have paid this price had it not been convinced that its actions were necessary to ostracize Navigator from the vital OEM distribution channel." FF 203 (JA 2297).[33] Its effort to enlist the OEMs in its campaign against Netscape "was only profitable to the extent that it protected the applications barrier to entry." FF 141 (JA 2283).[34]

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[30] FF 151 (JA 2286); *see* GX 1242 at 7 (JA 14915); Tr. 1/13/99 at 332-33 (Kanicki Dep.), Tr. 11/17/98 am at 52-53 (Vesey Dep.) (JA 14139-40, 6000-01).

[31] *See* GX 302, 319, 2191 (JA 14538, 14554, 14976).

[32] *Accord* GX 307, 309, 2141 (JA 14546, 14551, 14969).

[33] *See* GX 302, 307, 309, 319 (JA 14538, 14546, 14551, 14554); Warren-Boulton ¶¶ 189-94 (JA 3246-49).

[34] *See* Fisher ¶¶ 124, 126, Warren-Boulton ¶ 185 (JA 13918-21, 3245-46); Schmalensee Tr. 6/24/99 pm at 16, Fisher Tr. 6/1/99 am at 40, 68-69 (JA 14324, 14264, 14273-74); GX 39 at MS6 5005720, GX 59 (JA 14355, 14395).

Indeed, based on Microsoft's extensive "internal correspondence and external communications," the court found that, "[b]efore it decided to blunt the threat that Navigator posed to the applications barrier to entry, Microsoft did not plan to make it difficult or impossible for OEMs or consumers to obtain Windows without obtaining Internet Explorer." FF 156 (JA 2287). Even as late as June 1995, Microsoft was planning only "to include low-level Internet 'plumbing,' . . . but not a browser, with Windows 95." FF 156-57 (JA 2287); GX 125, 124 ("[Windows 95] contains all the plumbing you need to hook up to the net – but cool apps like Mosaic [browser] are stuff you need to obtain from 3rd parties") (JA 14411, 14410). "The plan at that point, rather, was to ship the browser in a separate 'frosting' package, for which Microsoft intended to charge." FF 157 (JA 2287)); *see, e.g*, GX 143 (JA 14431).[35] Microsoft reversed course in July 1995 because it concluded that bundling Windows 95 and IE was the "most effective way" to diminish Navigator's threat to the operating system monopoly. FF 157-58 (JA 2287).[36] Compare MS Br. 23-24.

(b) Additional Means To Prevent OEMs From Distributing Navigator

Despite its contractual restraints on OEMs, Microsoft Senior Vice President James Allchin wrote in late 1996 that "I don't understand how IE is going to win." FF 166 (JA 2289); GX 47 (JA 14369). Microsoft had recognized in 1995 that IE "remained markedly inferior to Navigator in the estimation of consumers." FF 134 (JA 2281). By 1996, after $100 million in development expenses were devoted to it, IE was "vastly improved." FF 135 (JA 2281-82). But even by the end of 1997, the number of those "who regarded it as the superior product was roughly equal to those who preferred Navigator." *Id.* (JA 2282); Schmalensee Tables F-1 to F-3 (JA 4664-69); Tr. 1/20/99 am at 41 (JA

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[35] *Accord* GX 140 at MS98 0107151, GX 138 at MS6 6005045, GX 151, 601, 606, 143, 63, 146, 137 (JA 14424, 14422, 14435, 14747, 14751, 14431, 14399, 14433, 14416); Tr. 1/13/99 at 106-07, 111 (Barrett Dep.) (JA 14125-27).

[36] GX 521 (JA 14702); Allchin Tr. 2/3/99 am at 56-58 (JA 8138-40); Fisher ¶ 143 (JA 13925-26).

14187); GX 428 at MS7 000366 (sealed) (JA 17001). Microsoft thus believed that it was not "going to win" the browser war simply by "[p]itting browser against browser." FF 166 (JA 2289); GX 47, 48 (JA 14369, 14370).

In January 1997, Allchin complained to Microsoft executive Paul Maritz that "[w]e are not leveraging Windows from a marketing perspective." "[W]e are not investing sufficiently in finding ways to tie IE and Windows together." FF 166 (JA 2289), quoting GX 48 (JA 14370). In Allchin's view, "[t]reating IE as just an add-on to Windows which is cross-platform [means] losing our biggest advantage – Windows marketshare." FF 166 (JA 2289), quoting GX 47 (JA 14369). Reporting on a February 1997 study, Microsoft's Christian Wildfeuer agreed with Allchin's assessment: "It seems clear that it will be very hard to increase browser market share on the merits of IE 4 alone. It will be more important to leverage the OS asset to *make* people use IE instead of Navigator." GX 202 at MS7 004346 (emphasis added) (JA 14462); FF 169 (JA 2290); *accord* GX 53, 205 (JA 14390, 14469).

"Microsoft's executives believed that the incentives that its contractual restrictions placed on OEMs would not be sufficient in themselves to reverse the direction of Navigator's usage share." FF 160 (JA 2288). They therefore decided to make technical changes in Windows to ensure that removing IE from Windows is difficult and that, in the words of Microsoft executive Brad Chase, "running any other browser is a jolting experience." *Id.*; GX 684 at MS6 6007119 (JA 14785); *see also* GX 355 at MS7 003002 (report to Allchin: "An integrated browser [would make] Netscape a non-issue – a superfluous product for all but the most committed Netscape user") (JA 14585). Accordingly, unlike Windows 95, Windows 98 did not allow even *users* to uninstall IE with the Add/Remove feature, even though a major OEM (Gateway) had expressly requested such a feature and even though users remained able to uninstall dozens of other features that Microsoft held out as integrated into Windows 98. FF 170 (JA 2290); Allchin Tr. 2/2/99 pm at 5-12 (JA 8011-18); GX 1073 at MS98 0204593, GX 1366 (JA 14850, 14928). Windows 98 contained a second feature that thwarted Navigator: Microsoft set IE as the default browser on Windows 98 and configured the software so that, even "when a user chooses a browser other than Internet Explorer as the default [by changing the appropriate setting], Windows 98 nevertheless requires the user to employ Internet Explorer in numerous situations that, from the user's perspective, are entirely unexpected." FF 171 (JA 2290).[37] That configuration caused "considerable uncertainty and confusion in the ordinary course of using Windows 98" for those "users who choose a browser other than Internet Explorer as their default." *Id.* "By increasing the likelihood that using Navigator on Windows 98 would have unpleasant consequences for users, Microsoft further diminished the inclination of OEMs to pre-install Navigator onto Windows." FF 172 (JA 2290).

The court found no merit in the various technical rationales put forward by Microsoft for binding IE with Windows 98. Microsoft "could offer consumers all the benefits of the current Windows 98 package by distributing the products separately and allowing OEMs or consumers themselves to combine the products if they wished." FF 191 (JA 2294).[38] The court termed "specious" Microsoft's contention that "binding the browser to the operating system is reasonably necessary to preserve the 'integrity' of the Windows platform." FF 193 (JA 2294):

> First, concern with the integrity of the platform cannot explain Microsoft's original decision to bind Internet Explorer to Windows 95, because Internet Explorer 1.0 and 2.0 did not contain APIs. Second, concern with the integrity of the platform cannot explain Microsoft's refusal to offer OEMs the option of uninstalling Internet Explorer from Windows 95 and Windows 98 because APIs, like all other shared files, are left on the system when Internet Explorer is uninstalled. Third, Microsoft's contention that offering OEMs the choice of

[37] *See* Felten ¶ 51 (JA 3023); Farber Tr. 12/9/98 am at 53, Felten Tr. 12/14/98 am at 27, 29, Tr. 12/14/98 pm at 14 (JA 14087, 6920, 6922, 6983).

[38] *See also* FF 187-93 (JA 2293-95); Farber ¶ 24, Felten ¶ 31 (JA 13884-85, 3016); Felten Tr. 6/10/99 am at 18-20, Allchin Tr. 2/1/99 pm at 41 (JA 14308-10, 7966).

> whether or not to install certain browser-related APIs would fragment the Windows platform is unpersuasive because OEMs operate in a competitive market and thus have ample incentive to include APIs (including non-Microsoft APIs) required by the applications that their customers demand. Fourth, even if there were some potential benefit associated with the forced licensing of a single set of APIs to all OEMs, such justification could not apply in this case, because Microsoft itself precipitates fragmentation of its platform by continually updating various portions of the Windows installed base with new APIs.

Id. (JA 2294-95).[39] The court further found that other OS providers give OEMs the flexibility to uninstall or not install a browser *because it satisfies consumer demand.* FF 153 (JA 2286).[40] Compare MS Br. 24-25. Thus, the court concluded, Microsoft's decision "to bind Internet Explorer to Windows" was intended "to prevent Netscape from weakening the applications barrier to entry, rather than for any pro-competitive purpose." FF 155 (JA 2287).[41]

Indeed, rather than having any procompetitive justification, Microsoft's actions harmed consumers. To "combat" Netscape,[42] Microsoft decided "to delay the release of Windows 98 long enough so that it could be shipped with Internet Explorer 4.0 tightly bound to it," "'even if OEMs suffer[ed].'" FF 168, 167 (JA 2289-90); GX 50, 53, 357 at GW 026522 (sealed) (JA 14371, 14390, 16983). "Microsoft delayed the debut of numerous features, including support for new hardware devices, that Microsoft believed consumers would find beneficial, simply in order to protect the applications barrier to entry." FF 168 (JA 2290). Binding IE to Windows 98 also harmed consumers because "Windows purchasers who did not want browsing software . . . had to . . . content

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[39] *See* Felten ¶¶ 56-57, Fisher ¶ 165, Soyring ¶¶ 21-22, Warren-Boulton ¶ 181 (JA 3024-25, 13928-29, 13964, 3244);Warren-Boulton Tr. 11/24/98 pm at 22-23, Muglia Tr. 2/26/99 pm at 67, Felten Tr. 6/10/99 am at 62 (JA 14067-68, 14258, 14311).

[40] *See* DX 2572 at 53-54, 115-16 (IBM) (JA 15020-24); Tevanian ¶ 24 (Apple) (JA 3106); Tr. 12/10/98 pm at 60-62 (Sun), Tr. 12/15/98 am at 62-64 (SCO), Tr. 1/13/99 at 190-91 (Novell), Tr. 12/16/98 am at 50-51 (Caldera) (JA 6874-76, 14090-92, 14129-30, 14096-97).

[41] *See also* FF 156-57 (JA 2287); GX 623, 521 (JA 14756, 14702); Allchin Tr. 2/3/99 am at 56 (JA 8138); Fisher ¶ 143 (JA 13925-26).

[42] GX 53 (JA 14390).

themselves with a PC system that ran slower and provided less available memory than if the newest version of Windows came without browsing software." FF 410, 173 (JA 2349, 2291).[43] And, indeed, "Microsoft has harmed even those consumers who desire to use Internet Explorer, and no other browser," by commingling operating system and browsing-specific routines that "jeopardized the stability and security of the operating system." FF 174 (JA 2291); Farber ¶ 27, Weadock ¶ 32(e) (JA 13886-87, 13970). The court found that Microsoft would not have made those changes in Windows 98 and imposed those harms upon consumers absent its campaign to injure Netscape and thereby protect the applications barrier to entry. FF 409-11 (JA 2349-50).

Microsoft "largely succeeded in exiling Navigator from the crucial OEM distribution channel." FF 239 (JA 2306). By January 1998, Microsoft executive Joachim Kempin was able to report to CEO Bill Gates that Navigator was being shipped through only 4 of the 60 OEM distribution sub-channels, and even then most often in a position "much less likely to lead to usage" than IE's position. *Id.* (JA 2307); GX 421 at MS7 000680 (JA 14629); Barksdale ¶ 173 (JA 2948-49). By early 1999, "Navigator was present on the desktop of only a tiny percentage of the PCs that OEMs were shipping." FF 239 (JA 2307); Barksdale ¶ 173 (JA 2948-49); Fisher Tr. 1/7/99 am at 8, 11-12 (JA 14102-04).

(ii) The IAP Channel

Microsoft also embarked on a strategy to foreclose Netscape from the other crucial distribution channel, Internet access providers, which distribute browser software to their customers. FF 242-310 (JA 2307-25). The court found that "Microsoft made substantial sacrifices, including the forfeiture of significant revenue opportunities, in order to induce IAPs," *inter alia*, "to restrict their distribution

[43] *See* Felten ¶ 67 (JA 3028); Weadock Tr. 11/16/98 pm at 44 (JA 5892); GX 364 at MS7 004719 (JA 14589).

and promotion of non-Microsoft browsing software." FF 247 (JA 2308).[44] Microsoft gave IAPs valuable incentives to promote and distribute IE and to inhibit promotion and distribution of Navigator. FF 243 (JA 2308); *see also* FF 139 (JA 2283).[45] Those inhibitions included agreements extracted from IAPs "to refrain from promoting non-Microsoft Web browsing software, and to ensure that they distributed non-Microsoft browsing software to only a limited percentage of their subscribers." FF 244, 289 (JA 2308, 2319); *see also* FF 245, 258-59 (JA 2308, 2311); Fisher ¶¶ 184-85 (summarizing agreements) (JA 13930-32); *see, e.g,* GX 1140 (JA 14907). "[T]he inducements that Microsoft offered IAPs at substantial cost to itself . . . did the four things they were designed to accomplish: They caused Internet Explorer's usage share to surge; they caused Navigator's usage share to plummet; they raised Netscape's own costs; and they sealed off a major portion of the IAP channel from the prospect of recapture by Navigator." FF 247, 307-10 (JA 2309, 2324-25).

Microsoft's dealings with America Online, the "largest and most important IAP," FF 272 (JA 2315), illustrate its anticompetitive strategy. As Bill Gates described in an email to Microsoft executives: "We need for them to make our browser available as the browser to existing and new customers. We have to be sure that we don't allow them to promote Netscape as well." FF 280 (JA 2317), quoting DX 1545 (JA 15005). Microsoft carried out Gates's directive by creating an online services (OLS) folder on the Windows desktop and agreeing to give AOL free placement in that folder in exchange for AOL's agreement to promote IE exclusively as a third-party browser; to limit the total number of non-Microsoft browsers shipped to no more than 15% of total shipments; to limit the percentage of subscribers who first access AOL with AOL software shipped with a non-

[44] *See* Myhrvold Tr. 2/10/99 am at 27-28, Schmalensee Tr. 1/20/99 am at 56-57, Tr. 1/13/99 at 689-91 (Silverberg Dep.) (JA 14218-19, 14188-89, 14165-67); GX 81, 198, 1019, 51 at MS7 005539 (JA 14401, 14457, 14836, 14380).

[45] *See* Myhrvold Tr. 2/10/99 am at 62 (JA 14220); GX 39, 440, 472, 179 (JA 14354, 14630, 14632, 14454); Chase ¶¶ 51-52, Myhrvold ¶¶ 10, 32-33 (JA 3446-47, 3889-90, 3901-02).

Microsoft browser to no more than 15% of total AOL subscribers; and not to "express[] or imply[] to subscribers or prospective subscribers that they could use Navigator with AOL. Nor did it [even] allow AOL to include, on its default page or anywhere else, instructions telling subscribers how to reach the Navigator download site." FF 289 (JA 2319); GX 804 at AOL 0001738-39 (JA 14817-18).[46] That deal yielded no revenue for Microsoft and, because it involved valuable promotion on the Windows desktop for AOL, undermined Microsoft's own Internet access service, Microsoft Network, in which Microsoft had invested hundreds of millions of dollars as a competitor to AOL. FF 291 (JA 2320); GX 130 (JA 14413); Tr. 1/13/99 at 703-05 (Silverberg Dep.) (JA 14168-70). Gates himself recognized the necessity of sacrificing profit to protect Microsoft's "core assets," its Windows operating system. FF 285 (JA 2318); *see* GX 1372 at 112 (JA 14956). The court found that the company's tactics had the anticompetitive consequence of "accomplish[ing] no efficiency . . . [and] encumbering [consumers'] ability to choose between competing browsing technologies." FF 291 (JA 2320); GX 198, 228 at MS98 0113059 (JA 14457, 14478).

By accepting that deal in 1996, AOL committed to distributing and promoting IE "to the virtual exclusion of Navigator." FF 290, 272 (JA 2319, 2315); GX 180, 804 at AOL 0001738-39 (JA 14455, 14817-18). Microsoft thus induced "AOL [to] contravene[] its natural inclination to respond to consumer demand [for Navigator] in order to obtain the free technology, close technical support, and desktop placement offered by Microsoft." FF 294 (JA 2320); Barksdale ¶¶ 134-36 (JA 2932-34); Colburn Tr. 10/28/98 pm at 32, 76-77 (JA 5297, 5341-42).

Microsoft's strategy worked. In January 1998, Cameron Myhrvold reported to Gates that 92% of AOL's then-subscriber base of more than ten million used IE-based software, as compared to 34% a year earlier. FF 296 (JA 2321); GX 424 (sealed) at MS7 000584, 000589 (unsealed), GX 814A

[46] *See* Chase Tr. 2/16/99 am at 29-30 (JA 14222-23); Warren-Boulton ¶ 103 (JA 3210).

(JA 16989, 16994, 14825). "The AOL coup, which Microsoft accomplished only at tremendous expense to itself and considerable deprivation of consumers' freedom of choice, thus contributed to extinguishing the threat that Navigator posed to the applications barrier to entry." FF 304 (JA 2323).

Microsoft obtained similar exclusionary agreements with other major OLSs – AT&T WorldNet, Prodigy, and CompuServe – in return for financial incentives and placement in the OLS folder. FF 246, 305-06 (JA 2308, 2323-24); Barksdale ¶ 146, Warren-Boulton ¶ 103 (summarizing OLS agreements) (JA 2937, 3210); GX 1213 (sealed), 1148 (sealed), 1134 (JA 16581, 17070, 14885). Microsoft entered into similar agreements with other major IAPs as well, exchanging placement in Microsoft's Internet Referral Server and/or other valuable incentives for IAP agreements not to promote at all and to strictly limit distribution of any browser but IE. FF 253, 256, 258 (JA 2310-11); Fisher ¶¶ 184-85 (JA 13930-32). A Microsoft study indicated that IAPs representing 95% of Internet access users had signed some kind of "IE preferred" agreement. GX 350 (JA 14580); *see* Barksdale ¶ 129 (JA 2930).

Microsoft's IAP channel restrictions significantly hampered Netscape's ability to distribute Navigator. FF 307-08 (JA 2324); Fisher ¶¶ 191-92 (JA 13933-34). "The IAPs subject to the most severe restrictions comprise fourteen of the top fifteen access providers in North America and account for a large majority of all Internet access subscriptions in this part of the world." FF 308 (JA 2324); GX 211 (JA 14472); *see* Barksdale ¶ 129 (JA 2930). The court found, based on a study conducted by Microsoft itself, that the restrictions directly affected the usage share of IE. At the end of 1997, IE's weighted average share of shipments by Internet service providers that had agreed to make IE their default browser was 94%, as compared to only 14% for ISPs that were not so constrained. IE's weighted average share of browser usage was more than 60% at the end of 1997 for subscribers to ISPs that had made IE their default browser, but less than 20% for other ISPs. FF

309 (JA 2324); GX 11, 366 (JA 14328, 14599); Fisher ¶ 224 (JA 13938). Microsoft's most severe restrictions, with the most pronounced effect, applied to the two largest Internet access providers, AOL and CompuServe, which as of the end of 1997 had approximately 65% of all subscribers. Fisher ¶ 216 (JA 13937). Among subscribers to AOL and CompuServe, IE's usage share increased 65 points, from 22% to 87%, between January 1997 and August 1998. By contrast, IE's usage share among subscribers to IAPs that were not inhibited by restrictions rose only ten points (from 20% to 30%) over that period. Among all IAP subscribers, including those subject to restrictions, IE usage share rose 27 points (from 22% to 49%). FF 310 (JA 2325). "The differences in the degree of Internet Explorer's success in the three categories reveal the exclusionary effect of Microsoft's interdiction of Navigator in the IAP channel." *Id.*; *see also* FF 247 (Microsoft's foreclosure of the IAP channels "significantly hampered the ability of consumers to make their choice of Web browser products based on the features of those products") (JA 2309); Fisher ¶¶ 224, 227-28 (JA 13938-39); GX 4, 1092 (JA 14326, 14853). Compare MS Br. 110.

The court found that "[t]he restrictions on the freedom of IAPs to distribute and promote Navigator were far broader than they needed to be in order to achieve any economic efficiency. This is especially true given the fact that Microsoft never expected Internet Explorer to generate any revenue" in the IAP channel. FF 247 (JA 2308-09); GX 39 at MS6 5005720 (JA 14335). Indeed, the restrictions were not intended to serve any efficiency but rather were imposed because, as one of its executives testified, Microsoft "believed that, if IAPs gave new subscribers a choice between Internet Explorer and Navigator, most of them would pick Navigator." FF 243 (JA 2308); Myhrvold Tr. 2/10/99 am at 62 (JA 14220). The sacrifices made by Microsoft to push distribution of IE "could only have represented rational business judgments to the extent that they promised to diminish Navigator's share of browser usage and thereby contribute significantly to eliminating a threat to the applications barrier to entry." CL at 42 (JA 2422), citing FF 291 (JA 2320); GX 39 at MS6 5005720 (JA 14355).

(iii) Apple

Microsoft also pressured Apple to make Navigator less readily accessible on Apple PCs and thus "help[] to ensure that developers would not view Navigator as truly cross-platform middleware." CL at 42 (JA 2422). As leverage to obtain Apple's compliance, Microsoft threatened to cancel development of its "Office for Macintosh" software, which, as Microsoft recognized, was critical to Apple's business. GX 263 (email to Gates: the "threat to cancel Mac Office 97 is certainly the strongest bargaining point we have") (JA 14517).[47] That threat induced Apple to agree: (1) to distribute and promote IE as its default browser on all Mac OS releases; (2) to remove Navigator from the default installation of the Mac OS 8.5, thus making Navigator harder to load for customers who wanted to use it; (3) not to place any non-Microsoft browser on the desktop of any Mac OS upgrade or new Apple PC (making availability of Navigator harder to discover); and (4) not to promote any non-Microsoft browsing software. FF 351-52 (JA 2333-34).[48] Apple acquiesced in the agreement, not because it viewed IE as a superior browser or because of consumer demand, but "rather because of the *in terrorem* effect of the prospect of the loss of Mac Office. To be blunt, Microsoft threatened to refuse to sell a profitable product in whose development the company had already invested substantial resources, and which was virtually ready for shipment." FF 355 (JA 2335)[49]; GX 263 (email to Gates citing benefits to finishing substantial work already done on Mac

[47] *See* Tevanian ¶¶ 30-34 (JA 3107-09); Maritz Tr. 1/28/99 pm at 27-28 (JA 14205-06).

[48] GX 1167 at § 3.1 (JA 10119-20); *see also* GX 266 (JA 14521); Tevanian ¶¶ 38, 41 (JA 3110, 3111); Tr. 11/9/98 am at 40-44, Tr. 11/4/98 pm at 61-62 (JA 14005-09, 5409-10).

[49] Tevanian ¶¶ 37-39, 42 (JA 3110-12); Barksdale Tr. 10/27/98 am at 18-19 (JA 5110-11); GX 595 (JA 14744).

Office) (JA 14517). The court found that "[t]he predominant reason Microsoft was prepared to make this sacrifice, and the sole reason that it required Apple to make Internet Explorer its default browser and restricted Apple's freedom to feature and promote non-Microsoft browsing software, was to protect the applications barrier to entry." FF 355 (JA 2335).

(iv) ICPs And ISVs

As part of its comprehensive effort to hamper distribution of Navigator and to discourage the development of software that used non-Microsoft technology, Microsoft also targeted independent software vendors (ISVs) and Internet content providers (ICPs). Microsoft contractually required ISVs to use Internet Explorer-specific technologies in return for timely and commercially necessary technical information about Windows, and precluded important ISVs from distributing Navigator with their products. FF 337-40 (JA 2331-32); GX 2071 (JA 14960); *see, e.g.,* GX 2400 (JA 14980). The court determined that Microsoft's agreements with ISVs "represent another area in which it has applied its monopoly power to the task of protecting the applications barrier to entry." FF 340 (JA 2332).

"ICPs create the content that fills the pages that make up the Web. Because this content can include advertisements and links to download sites, ICPs also provide a channel for the promotion and distribution of Web browsing software." FF 311 (JA 2325). As the court found, "[e]xecutives at Microsoft recognized that ICPs were not nearly as important a distribution channel for browsing software as OEMs and IAPs. Nevertheless, protecting the applications barrier to entry was of such high priority at Microsoft that its senior executives were willing to invest significant resources to enlist even ICPs in the effort." *Id.*; GX 407 at MS6 5005717, GX 473 at MS6 6006248 (JA 14626, 14655). Microsoft entered into contracts that prohibited ICPs from compensating Netscape for promotion of the providers' content and from including download links to Navigator on their sites.

FF 332-35 (JA 2330-31); *see, e.g.*, GX 1163 at CNET 000032 (JA 10051); *see also* Barksdale ¶¶ 181-82, Fisher ¶¶ 134, 195, Harris ¶¶ 76-80 (JA 2952-53, 13924, 13935, 3077-80). Although the court concluded that "there is not sufficient evidence to support a finding that Microsoft's promotional restrictions [with respect to ICPs] actually had a substantial, deleterious impact on Navigator's usage share," FF 332 (JA 2330), it nonetheless determined that "[t]he terms of Microsoft's agreements with ICPs cannot be explained in customary economic parlance absent Microsoft's obsession with obliterating the threat that Navigator posed to the applications barrier to entry." FF 330 (JA 2329).

(v) Effects Of The Campaign

Microsoft's comprehensive assault on Netscape's ability to distribute Navigator succeeded in eliminating the threat the Navigator browser posed to Microsoft's operating system monopoly. The court found that Microsoft obtained control of the two distribution channels through which "a very large majority of those who browse the Web obtain their browsing software" – the OEM and IAP channels. FF 144, 379 (JA 2285, 2341); GX 233 at MS98 0125655, GX 218, 204, 736 (JA 14484, 14475, 14468, 14800). Constricted in using those distribution channels by Microsoft's exclusionary conduct, Navigator was relegated to more costly and significantly less effective modes of distribution. *E.g.*, FF 241, 379, 147, 357 ("The fact that Netscape was forced to distribute tens of millions of copies of Navigator through high-cost carpet-bombing in order to obtain a relatively small number of new users only discloses the extent of Microsoft's success in excluding Navigator from the channels that lead most effectively to browser usage") (JA 2307, 2341, 2285, 2336).[50] As Microsoft clearly recognizes: "Usage is what matters. Distribution is very unimportant relative to usage." Tr.

[50] *See* Fisher ¶ 191, Barksdale ¶¶ 32, 158, 227-28, 230 (JA 13933, 2878-79, 2941-42, 2972-74); Barksdale Tr. 10/21/98 am at 69, Myhrvold Tr. 2/9/99 pm at 41-42 (JA 4845, 14212-13); GX 204 (JA 14468).

6/1/99 pm at 22-23, quoting Chase Dep. (JA 14276-77). Compare MS Br. 45-48.[51] The adverse business effects of these restrictions also "deterred Netscape from undertaking technical innovations that it might otherwise have implemented in Navigator" and that might have attracted consumers and revenues. FF 379 (JA 2341).[52]

Because of its reduced access to efficient distribution channels, Navigator's share of browser use fell precipitously. "According to estimates that Microsoft executives cited to support their testimony in this trial, and those on which Microsoft relied in the course of its business planning, the shares of all browser usage enjoyed by Navigator and Internet Explorer changed dramatically in favor of Internet Explorer after Microsoft began its campaign to protect the applications barrier to entry." FF 360 (JA 2336). From January 1996 to November 1997, for example, Navigator's share fell from more than 80% to 55%, while IE's increased from 5% to 36%. By late 1998, Microsoft's estimates showed that Navigator and IE had achieved near parity, with Navigator slightly ahead. *Id.* (JA 2336-37); Warren-Boulton ¶ 146, Fisher ¶ 232 (JA 3228-29, 13940); GX 310, 711 (JA 14553, 14795); *see also* GX 4, 5, 14 (JA 14326, 14327, 14329).

Moreover, the court found that the trend is clearly in Microsoft's direction. Based on internal Microsoft projections and a forecast on which AOL relied in purchasing Netscape, the court found that Navigator's share was predicted to fall to between 35% and 40% by late 2000. "The most reasonable prediction, then, is that by January 2001, Internet Explorer's usage share will exceed sixty percent while Navigator's share will have fallen below forty percent." FF 373 (JA 2340); GX 711,

[51] *Accord* Myhrvold Tr. 2/9/99 pm at 49, 62-63, Tr. 1/13/99 at 635-36 (Mehdi Dep.), Fisher Tr. 6/1/99 pm at 22-23, Tr. 12/15/98 am at 21 (Gates Dep.) (JA 14214-16, 14160-61, 14276-77, 14089); GX 510 at MS7 004127 (JA 14666).

[52] *See* Barksdale ¶¶ 223-24, Gosling ¶ 37 (JA 2970-71, 13957); Barksdale Tr. 10/27/98 pm at 20, Tr. 10/21/98 pm at 55-56, Warren-Boulton Tr. 11/24/98 am at 74, Myhrvold Tr. 2/10/99 pm at 29-32 (JA 5195, 4907-08, 14065, 8297-300); *see also* FF 197-98 (JA 2295-96).

515 (JA 14795, 14697). Thus, even though Navigator's installed base of users has increased during the browser war, the "population of browser users is expanding so quickly that Navigator's installed base has grown even as its usage share has fallen." FF 378 (JA 2341). Navigator lost its ability "to becom[e] the standard software for browsing the Web" because "Microsoft had successfully denied Navigator that status." FF 377 (JA 2341).[53] *See also* RX 23 (as of April 2000, IE share was at 69%, Navigator down to 19%) (JA 14991).

That development directly bore on Microsoft's ability to maintain its OS monopoly: The APIs that "Navigator exposes could only attract enough developer attention to threaten the applications barrier to entry if Navigator became – or appeared destined to become – the standard software used to browse the Web. Navigator's installed base may continue to grow, but Internet Explorer's installed base is now larger and growing faster. Consequently, the APIs that Navigator exposes will not attract enough developer attention to spawn a body of cross-platform, network-centric applications large enough to dismantle the applications barrier to entry." FF 378 (JA 2341).[54] Microsoft itself recognized the significance of that development. As Microsoft's Kumar Mehta told Brad Chase in February 1998: "the browser battle is close to over. . . We set out on this mission 2 years ago to not let netscape dictate standards and control the browser api's [sic]. All evidence today says they don't." FF 377 (JA 2341); GX 515 at MS98 0203013.

As the court found, Microsoft won that battle not through lawful competitive ingenuity, but through anticompetitive practices. In May 1998, Microsoft recognized that "'IE4 is fundamentally not compelling'" and "'[n]ot differentiated from Netscape v[ersion]4 – seen as a commodity.'" FF 375 (JA 2340); GX 173 (JA 14451); Schmalensee Tr. 1/20/99 am at 41 (JA 14187). Thus, "superior

[53] *See* Fisher Tr. 1/11/99 pm at 57-58, 1/7/99 pm at 36-37, Warren-Boulton Tr. 11/23/98 am at 82-84 (JA 14111-12, 14107-08, 14056-58).

[54] *See* Warren-Boulton ¶ 88 (JA 3202); Fisher Tr. 1/7/99 pm at 36-37 (JA 14107-08).

quality was not responsible for the dramatic rise [in] Internet Explorer's usage share." FF 375 (JA 2340).[55] Microsoft's numerous and varied actions against Navigator had no justification except the expectation that the entry or expansion of rivals into the market for Intel-compatible PC operating systems would be blocked or delayed through the preservation of barriers to entry in that market. FF 136-42 (JA 2282-84); CL at 44 (JA 2424).[56] Its campaign to foreclose the OEM and IAP channels to Netscape required Microsoft to pay out "huge sums of money, and sacrifice[] many millions more in lost revenue every year." FF 139 (JA 2283); *see also* FF 135-36, 142, 231, 250, 254-55, 261, 295, 317-19 (JA 2281-82, 2284, 2305, 2309, 2310, 2312, 2320, 2326-27); CL at 44 (JA 2424). That campaign was "only profitable to the extent that it protected the applications barrier to entry" and would not have been in Microsoft's business interest except that it preserved the operating system monopoly. FF 141 (JA 2283).[57]

Microsoft's actions not merely deprived Netscape of browser share, but irrevocably weakened it.[58] As the court specifically found, "Microsoft was not altogether surprised, then, when it learned in November 1998 that Netscape had surrendered itself to acquisition by another company." FF 379 (JA 2341-42). That acquisition, by AOL, was addressed in the court's findings of fact, with the conclusion that "there is presently no indication that AOL will try even after [the January 1, 2001, expiration of its obligation to distribute IE on a preferential basis] to raise Navigator's usage share substantially." FF 380 (JA 2342); *see, e.g.,* Colburn Tr. 6/22/99 am at 6-7, 16 (JA 14316-17, 14319).

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[55] *See* Barksdale ¶¶ 232-38 (JA 2974-77); Fisher Tr. 6/4/99 pm at 5-7, 6/2/99 am at 7-9, Myhrvold Tr. 2/10/99 am at 62 (JA 14287-89, 8792-94, 14220); GX 173 (JA 14451).

[56] *See* Fisher ¶¶ 124, 128 (JA 13918-19, 13921); GX 48, 515 at MS98 0203013, 20 at MS98 0112876.3, 407 at MS6 5005709 (JA 14370, 9875, 14618).

[57] *See* Fisher ¶¶ 124-28 (JA 13918-21); GX 40, 42, 112, 511, 39 at MS6 5005720, 510 at MS7 004127 (JA 14361, 14365, 14407, 14687, 14355, 14666).

[58] FF 379 (JA 2341); GX 343, 39 at MS6 5005720 (JA 14577, 14355).

"Bill Gates himself, who is not one to underestimate threats to Microsoft's business, apparently concluded after reviewing the November 1998 transaction that AOL would not seek to develop a platform that would compete with Microsoft's network-centric interfaces." FF 382 (JA 2342); GX 2241 at MS98 0231890 (JA 14979). "In any event, nothing that happens after January 1, 2001 will change the fact that Microsoft has succeeded in forestalling for several years Navigator's evolution in that direction." FF 383 (JA 2342).

c. Java

Microsoft also feared another middleware technology, Sun Microsystems' Java. FF 75 (JA 2267).[59] Java software presented a means for overcoming the applications barrier to entry by enabling developers to write programs that could be ported to different operating systems "with relative ease." FF 387 (JA 2343). Indeed, it was Sun's intention that Java eventually would have the capability to allow developers to write applications that would run on multiple operating systems without any porting at all. *Id.* Thus, Microsoft was concerned about Java because, as the court found, "a key to maintaining and reinforcing the applications barrier to entry has been preserving the difficulty of porting applications from Windows to other platforms, and vice versa." FF 386 (JA 2343).

Java software has four elements: a programming language; a set of "class libraries," which are Java programs that expose APIs on which developers writing in Java can rely; a compiler that translates the code written by the developer into Java "bytecode"; and "Java virtual machines" (JVMs), programs that translate that Java bytecode into instructions comprehensible to the underlying system. The Java class libraries and JVM together form the "Java runtime environment." FF 73 (JA 2267). If a software program relies "only on APIs exposed by the Java class libraries [it] will run

[59] *See* Muglia ¶ 8, Maritz ¶ 243 (JA 3806-07, 3731-32); Tr. 2/26/99 pm at 4, 9, Tr.12/2/98 am at 24 (Gates Dep.) (JA 14256, 14257, 14085); DX 2568 at 90-91 (Gates) (JA 15018-19).

on any PC system" carrying a Java runtime environment, no matter what operating system is on the computer. Therefore, Java applications require porting "only to the extent that those applications rely directly on the APIs exposed by a particular operating system." FF 74 (JA 2267); Gosling ¶¶ 20-30 (JA 13950-56).

In May 1995, Netscape announced that it would include a Sun-compliant Windows JVM with every copy of Navigator, creating the possibility that Sun's Java implementation "would achieve the necessary ubiquity on Windows" to pose a threat to the applications barrier to entry. FF 76, 395 (JA 2268, 2345); Barksdale ¶ 83 ("Programs written in Java can be run on any platform that has a Java virtual machine and Java class libraries, which Navigator does") (JA 2903). Microsoft's determination to cripple cross-platform Java was an important reason for its concern about Navigator. FF 77 (JA 2268); GX 52, 514 at MS7 007509 (JA 14384, 14694). But Microsoft not only restricted distribution of Java through the anticompetitive practices it employed to thwart usage of Navigator; it also took numerous other steps to interfere with the development, distribution, and use of cross-platform Java. Those steps "resulted in fewer applications being able to run on Windows than otherwise" and thus made no business sense except as a means of protecting the applications barrier to entry. FF 407 (JA 2348); GX 1324 (JA 14921); Fisher Tr. 1/7/99 pm at 52 (JA 14109).

First, Microsoft pressured third parties not to support cross-platform Java. Microsoft's avowed aims were not to innovate, or to give consumers a better product, but rather to prevent Sun from creating Java APIs, especially "great" ones offering "cutting edge" developer support, and "especially ones that run well . . . on Windows." FF 406 (JA 2348); GX 518 at MSS 0080075, GX 235 at MS7 027416 (JA 14700, 14502). For example, "[t]o hinder Sun and Netscape from improving the quality of the Windows JVM shipped with Navigator, Microsoft pressured Intel, which was developing a high-performance Windows-compatible JVM, to not share its work with either Sun or Netscape, much less allow Netscape to bundle the Intel JVM with Navigator." FF 396 (JA 2345).[60] Gates threatened to withhold Microsoft's support for Intel's next generation of microprocessors if Intel supported Sun's Java efforts. FF 404 (JA 2347).[61] Gates told Intel CEO Andrew Grove that Microsoft would agree to withhold support for one of Intel's competitors if Intel would stop assisting Sun with Java multimedia (i.e., software used to create and transmit audio and visual content). FF 406 (JA 2348); GX 290 (JA 14531). Ultimately, Intel stopped its support of Sun. FF 406 (JA 2348).[62]

Second, Microsoft sought to extinguish the Java threat through technological means that "maximiz[ed] the difficulty with which applications written in Java could be ported from Windows to other platforms, and vice versa." FF 386 (JA 2343). In March 1996, Microsoft obtained a Java license from Sun, which it used "to create its own Java development tools and its own Windows-compatible Java runtime environment." FF 388 (JA 2343). Microsoft's approach allowed applications to access OS features specific to Windows (i.e., to make "native calls") using methods unique to Microsoft. Because they were "custom-built" to Windows specifications, such applications ran faster than applications written to use Sun-compliant methods of access. FF 389 (JA 2343). But "if a Java developer used the Sun method for making native calls, his application would not run on Microsoft's version of the Windows JVM, and if he used Microsoft's native methods, his application would not run on any JVM other than Microsoft's version." FF 390 (JA 2344); Gosling ¶ 58 (JA 13958-61). "Far from being the unintended consequence of an attempt to help Java developers

[60] McGeady Tr. 11/9/98 pm at 56-57, 67-71, 11/10/98 am at 6-8, 14-18 (JA 14031-32, 14035-39, 14041-48); Fisher ¶ 110 (JA 13913); GX 566 (JA 14742).

[61] GX 279 at 1-2 (JA 14524-25); McGeady Tr. 11/9/98 pm at 14-16, 67-68 (JA 14012-14, 14035-36); Fisher ¶ 111-12 (JA 13914-15).

[62] McGeady Tr. 11/10/98 pm at 12, 11/12/98 am at 62-63, 69, Engstrom Tr. 2/23/99 pm at 33 (JA 5575, 5723-24, 5730, 14241); GX 284, 289 (JA 9906, 14529).

more easily develop high-performing applications, incompatibility was the intended result of Microsoft's efforts." FF 390 (JA 2344); GX 1334 at MSS 0003551 (JA 14925).

Microsoft took other steps to interfere with cross-platform Java. It "designed its Java developer tools to encourage developers to write their Java applications using certain 'keywords' and 'compiler directives' that could only be executed properly by Microsoft's version of the Java runtime environment for Windows." FF 394 (JA 2344); Gosling ¶ 58 (JA 13958-61). Microsoft then shipped its developer tools with the Windows-specific extensions enabled by default and "fail[ed] to warn developers that their use would result in applications that might not run properly with any runtime environment other than Microsoft's and that [it] would be difficult, and perhaps impossible, to port to JVMs running on other platforms." FF 394 (JA 2345); Gosling ¶ 63 (JA 13962). These steps implemented the suggestion of Microsoft's Thomas Reardon in November 1996 that the company "quietly grow" Microsoft's Java developer tools and "assume that people will take more advantage of our classes without ever realizing they are building" applications that would be specific only to Windows and not be portable. FF 394 (JA 2345); GX 1332, GX 259 at MS7 033448 (Microsoft planning memorandum for Java development tools confirms objective: "Kill cross-platform Java by grow [*sic*] the polluted Java market") (JA 14922, 14514). In those and other ways, the court found that Microsoft took anticompetitive steps to discourage developers from creating Java applications compatible with non-Microsoft JVMs. *See* FF 401-03 (JA 2346-47). Some of these actions were discontinued in the face of litigation in another court.[63]

The district court determined that those steps lacked a business purpose except to protect the applications barrier to entry. FF 401, 403 (JA 2347). As the court concluded, "Microsoft has

[63] *Sun Microsystems, Inc. v. Microsoft Corp.*, 21 F. Supp. 2d 1109, 1127-28 (N.D. Cal. 1998) (granting preliminary injunction), *vacated*, 188 F.3d 1115, 1123 (9th Cir. 1999), *on remand*, 87 F. Supp. 2d 992, 998 (N.D. Cal. 2000) (reinstating preliminary injunction).

retarded, and perhaps altogether extinguished, the process by which . . . two middleware technologies [Navigator and Java] could have facilitated the introduction of competition" into the market for Intel-compatible PC operating systems. FF 411 (JA 2350).

d. Intel And Others

Microsoft engaged in yet further threats and coercion to interfere with other firms' plans for developing or promoting platform-level software. For example, Microsoft induced Intel not to continue developing Native Signal Processing (NSP) software that "would endow Intel microprocessors with substantially enhanced video and graphics performance." FF 95 (JA 2272); *see also* FF 94-103 (JA 2272-74). Microsoft viewed NSP as a threat to the applications barrier to entry because NSP exposed middleware APIs that could make Windows a "commodity." FF 97 (JA 2272); GX 1309, 921 (JA 14917, 14827); McGeady Tr. 11/10/98 pm at 59-60 (JA 5622-23). Microsoft thus told "Intel that if it would stop promoting NSP's interfaces, Microsoft would accelerate its own work to incorporate the functions of the NSP software into Windows . . . At the same time, Microsoft pressured the major OEMs to not install NSP software on their PCs until the software ceased to expose APIs." FF 101 (JA 2273); McGeady Tr. 11/10/98 pm at 43-44 (JA 5606-07). Because Intel needed the cooperation of the OEMs to distribute NSP, Intel decided to "surrender the pace of software innovation to Microsoft" and "agreed to stop promoting its NSP software." FF 101, 103 (JA 2273, 2274); GX 281 (Gates reports in October 1995 the "good news" that "OEMs are listening to us," and that "Intel feels we have all the OEMs on hold with our NSP chill") (JA 14528).[64] Although Microsoft subsequently incorporated "some of NSP's components into its operating-system products . . . [e]ven as late as the end of 1998 . . . Microsoft still had not implemented key capabilities

[64] *See* GX 278 (JA 9904); McGeady Tr. 11/10/98 pm at 38, 75-76, 11/9/98 pm at 31-32, Tr. 11/12/98 pm at 45-49 (Sullivan Dep.) (JA 5601, 5638-39, 14015-16, 14050-54).

that Intel had been poised to offer consumers in 1995." FF 101 (JA 2273); McGeady Tr. 11/10/98 pm at 13 (JA 5576).

"Microsoft was not content to merely quash Intel's NSP software." FF 102 (JA 2273). In August 1995, Gates told Intel's Andy Grove that "Intel could not count on Microsoft to support Intel's next generation of microprocessors as long as Intel was developing [any] platform-level software that competed with Windows." *Id.*[65] Intel knew that it would have difficulty selling PC microprocessors without Microsoft's cooperation in making them compatible with Windows or if Microsoft told OEMs that it would not support Intel's chips. "Faced with Gates' threat, Intel agreed to stop developing platform-level interfaces that might draw support away from interfaces exposed by Windows." *Id.* (JA 2274); GX 281 (Gates tells his officers: "If Intel is not sticking totally to its part of the deal let me know") (JA 14528). Microsoft's effort to get Intel to drop the development of platform-level software had no procompetitive justification, and its success foreclosed potentially valuable software innovation that might have benefited consumers. FF 410 (JA 2349); *see* McGeady Tr. 11/9/98 pm at 36-42, 45-47, 61-62 (JA 14017-23, 14026-28, 14033-34); GX 563 (JA 14740).

The district court chronicled similar dealings in which Microsoft attempted to secure the agreement of other firms to abandon their platform software efforts in return for the opportunity to build a user interface or other "value-added" software on top of Microsoft's platform. These dealings demonstrate "Microsoft's corporate practice to pressure other firms to halt software development that either shows the potential to weaken the applications barrier to entry or competes directly with Microsoft's most cherished software products." FF 93 (JA 2272).[66] "Microsoft's interactions with

[65] *See* GX 279 (JA 14524); McGeady Tr. 11/9/98 pm at 13-16, 43-45 (JA 14011-14, 14024-26); Fisher ¶ 109 (JA 13913); DX 2595 at 21-23, 74-75 (JA 13106-08, 13122-23).

[66] *See* Fisher ¶¶ 114-15 (Apple) (JA 13915-16); FF 104-10 (Apple), 111-14 (RealNetworks), 115-32 (IBM) (JA 2274-81).

Netscape, IBM, Intel, Apple, and RealNetworks all reveal Microsoft's business strategy of directing its monopoly power toward inducing other companies to abandon projects that threaten Microsoft and toward punishing those companies that resist." FF 132 (JA 2281).

As the court summarized the net effect of Microsoft's actions:

> Microsoft has demonstrated that it will use its prodigious market power and immense profits to harm any firm that insists on pursuing initiatives that could intensify competition against one of Microsoft's core products. Microsoft's past success in hurting such companies and stifling innovation deters investment in technologies and businesses that exhibit the potential to threaten Microsoft. The ultimate result is that some innovations that would truly benefit consumers never occur for the sole reason that they do not coincide with Microsoft's self-interest.

FF 412 (JA 2350).[67]

SUMMARY OF ARGUMENT

I. The district court's judgment rests on the application of settled law to established facts. The core of this case is Microsoft's violation of Section 2 of the Sherman Act through unlawful maintenance of its operating system monopoly. On each of the two required elements, monopoly power and exclusionary conduct, the court properly applied well-established legal standards to the findings of fact proved at trial. *See, e.g., Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 480 (1992); *Neumann v. Reinforced Earth Co.*, 786 F.2d 424, 427 (D.C. Cir. 1986). This is a classic case of monopolization "in which a defendant's possession of substantial market power, combined with his exclusionary or anticompetitive behavior, threatens to defeat or forestall the corrective forces of competition and thereby sustain or extend the defendant's agglomeration of power." *Eastman Kodak*, 504 U.S. at 488 (Scalia, J., dissenting).

[67] *See* Barksdale Tr. 10/21/98 pm at 55, 10/26/98 am at 31-33, 10/27/98 pm at 24-25, Fisher Tr. 1/12/99 pm at 22, 6/2/99 am at 25-26 (JA 4907, 13985-87, 5199-200, 7332, 8810-11); Fisher ¶ 24 (JA 13889).

Microsoft has monopoly power. The court's finding that Intel-compatible PC operating systems constitute the relevant market is comprehensively supported by evidence showing the absence of commercially realistic substitutes for those operating systems. Its finding of Microsoft's monopoly power in that market rests solidly on Microsoft's persistent, dominant, and increasing market share; the high barriers of entry protecting that share; and the behavior of Microsoft, which would be inexplicable for a non-monopolist. Microsoft does not contest the controlling law, and the court's findings easily survive review under the clear error standard.

Microsoft also engaged in extensive exclusionary conduct. The court's findings carefully distinguished between Microsoft's lawful competition on the merits and Microsoft's unlawful anticompetitive conduct. The court did not hold Microsoft liable for "improved products, increased distribution and lower prices." MS Br. 98. Rather, the court based its determination of liability on the anticompetitive conduct proved at trial, which Microsoft largely ignores. Those anticompetitive actions include: Microsoft's constriction of Netscape's access to the OEM distribution channel through restrictions that excluded Netscape both directly and indirectly; comparable constriction of Netscape's access to the IAP distribution channel; other actions to impede Netscape, including threats to Apple and restrictions on ICPs and ISVs; and coercive and misleading actions to impede Java-based cross-platform applications. The district court found that those actions did not serve any legitimate interest in better, cheaper, or more accessible products. Rather, they forestalled the growth of middleware products – Netscape's Navigator and Sun's Java technologies – that threatened Microsoft's monopoly, and they decreased, not increased, consumer's choices.

Microsoft's proffered justifications for its anticompetitive actions lack merit. Microsoft makes passing mention of copyright law, but it has neither identified a tenable copyright defense nor established a basis in the record for copyright law to provide immunity for its anticompetitive conduct. Microsoft's primary defense – that it did not completely exclude Netscape's access to key distribution channels – also fails. The court's findings and settled law make clear that Microsoft cannot escape liability on the ground that its impairment of Netscape's access to those channels, while sufficient to achieve Microsoft's intended monopoly-maintaining effect, nevertheless failed completely to foreclose all access. Nor can the intrinsic uncertainty about whether a particular emerging competitive threat ultimately would succeed in the absence of anticompetitive conduct provide a monopolist like Microsoft with license to attack and destroy the threat before it fully takes hold.

II. Although the Section 2 monopoly maintenance holding is sufficient to support the judgment, the district court also correctly held that Microsoft unlawfully attempted to monopolize the browser market. *See Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 456 (1993). The June 1995 proposal to Netscape was itself an unlawful attempt. It was an anticompetitive plan to keep Netscape out of a key aspect of competition by having it cede control over platform aspects of Window 95 browsers to Microsoft that would immediately give Microsoft a form of monopoly power. The post-June 1995 campaign of predatory conduct likewise constituted an attempt. Microsoft demonstrated the requisite specific intent: by seeking to gain control over platform aspects of the browser product, by crippling Netscape, and by employing anticompetitive means to become dominant in a market that it believed was characterized by network effects. Its predatory actions created a dangerous probability of success, as shown by its rapid acquisition of 50% of usage, with a clear trend of further increases.

III. The district court's additional holding that Microsoft violated the Section 1 prohibition on tying is also correct. The only element of tying liability at issue is whether IE and Windows constitute separate products. The findings of fact establish that they do under the separate-demand approach of *Jefferson Parish Hospital District No. 2 v. Hyde*, 466 U.S. 2 (1984), which Microsoft does not contest. Microsoft is incorrect, however, that a different result would be reached under the "integration" rationale that this Court applied when interpreting a consent decree in *United States v. Microsoft Corp.*, 147 F.3d 935 (D.C. Cir. 1998) (*Microsoft II*). The evidence proved that the early versions of IE and Windows were separate products under *Microsoft II*, because there was no technological linkage between those versions and Windows. The later versions of IE and Windows are also separate products, because the court's findings establish that there was no efficiency or other justification for Microsoft to refuse to offer a browserless version of Windows. Indeed, Microsoft easily could have produced such a version by employing the familiar techniques in the software industry for removing software functionality. Microsoft's binding of IE to Windows, in short, was pure bolting, which caused the very harms targeted by tying law: substantial impairment of consumer choice on the merits between browsers, to the detriment of non-Microsoft browsers and the market as a whole.

IV. Microsoft's objections to the trial procedures are also groundless. The court adopted reasonable trial procedures to serve the vital interest in efficient resolution of important antitrust cases in the rapidly changing software industry. Microsoft can identify no concrete prejudice to its right to a fair adjudication.

V. The district court acted properly in imposing the structural and conduct remedy for Microsoft's wide-ranging course of illegal actions. Each part of the remedy is designed to achieve the essential goals of ending unlawful conduct, preventing recurrence of it or similar conduct, and undoing anticompetitive consequences. *See, e.g., Nat'l Soc'y of Prof'l Eng'rs v. United States*, 435 U.S. 679, 697 (1978). The structural relief wisely relies on ordinary market incentives, rather than long-term judicial oversight, to encourage creation of the kind of competition that Microsoft crushed in its attack on Navigator and Java. The conduct remedies, moreover, both make the structural remedy work and, in the interim, address the risk of repetition in closely related spheres of the same type of conduct found illegal here. No separate evidentiary hearing was required to impose this remedy, for it was fully justified on the extensive trial record, the findings regarding Microsoft's wide-ranging conduct and incentives, and the extensive expert analyses submitted by the government. Though Microsoft was plainly on notice of the possible scope of relief, it did not properly controvert the bases for the proposed remedy in respects that would have altered it in any way and did not offer a serious alternative. If there are particular issues relating to details of the divestiture, they can be addressed in the further proceedings contemplated by the court after Microsoft submits a detailed plan of reorganization.

VI. Finally, Microsoft cannot establish any prejudice from the out-of-court statements of Judge Jackson. Those statements provide no grounds for inferring bias or partiality, nor establish a basis for setting aside the judgment or removing him from subsequent proceedings. That result follows no matter how this Court evaluates Judge Jackson's statements under the Canons of Judicial Conduct.

ARGUMENT

STANDARD OF REVIEW

"Findings of fact, whether based on oral or documentary evidence, shall not be set aside unless clearly erroneous." FED. R. CIV. P. 52(a). *See Anderson v. City of Bessemer City*, 470 U.S. 564, 574 (1985); *Bailey v. Fed. Nat'l Mortgage Ass'n*, 209 F.3d 740, 743 (D.C. Cir. 2000). That standard is rigorous: "If the district court's account of the evidence is plausible in light of the record viewed in its entirety, the court of appeals may not reverse it even though convinced that had it been sitting as the trier of fact, it would have weighed the evidence differently." *Anderson*, 470 U.S. at 573-74. Indeed, "[w]here there are two permissible views of the evidence, the factfinder's choice between them cannot be clearly erroneous." *Id.* at 574. "This standard applies to the inferences drawn from findings of fact as well as to the findings themselves." *Halberstam v. Welch*, 705 F.2d 472, 486 (D.C.

Cir. 1983). Issues of law are, of course, reviewed de novo. *United States ex rel. Modern Elec., Inc. v. Ideal Elec. Sec. Co.*, 81 F.3d 240, 244 (D.C. Cir. 1996).

Microsoft makes one perfunctory reference to Rule 52 in its discussion of the standard of review (MS Br. 67-68), but nowhere in its brief does Microsoft forthrightly argue that any of the district court's 412 Findings of Fact must be set aside as clearly erroneous within the meaning of Rule 52. Rather, at various points in its brief, Microsoft has chosen to criticize selectively certain of the court's findings. Although Microsoft's brief occasionally skirts the edges of a clear error argument, it is not our obligation or this Court's to identify which of Microsoft's various criticisms may have been intended to constitute such an argument. Nor should the Court accept Microsoft's implied invitation to ignore the dictates of Rule 52 and usurp the role of the district court by engaging in "impermissible appellate factfinding." *Amadeo v. Zant*, 486 U.S. 214, 228 (1988); *see also Milmark Servs., Inc. v. United States*, 731 F.2d 855, 859 (Fed. Cir. 1984). Because Microsoft chose not to raise a clear error argument in its principal brief, it should not be permitted to use its 75-page reply brief to make a Rule 52 argument (or raise any other issue) for the first time. *See Sitka Sound Seafoods, Inc. v. NLRB*, 206 F.3d 1175, 1181 (D.C. Cir. 2000) ("issues not raised until the reply brief are waived"); *Adams v. Hinchman*, 154 F.3d 420, 424 n.7 (D.C. Cir. 1998) (per curiam) (striking portion of reply brief raising issues not advanced in opening brief). In any event, even if the Court is inclined to treat those few criticisms that appear to be most focused as clear error arguments, Microsoft has failed to establish that any finding should be set aside under Rule 52. *Compare* MS Br. 78-79 (discussing FF 161, 174 (JA 2288, 2291)), *with* p. 66, *infra*; MS Br. 108-09 (discussing FF 239 (JA 2306-07)), *with* pp. 74-75, *infra*; MS Br. 110 (discussing CL at 42 (JA 2422)), *with* pp. 77-79, *infra*; and MS Br. 122-23 (discussing CL at 45-46 (JA 2425-26)), *with* pp. 88-93, *infra*.

I. MICROSOFT VIOLATED SECTION 2 OF THE SHERMAN ACT THROUGH A COURSE OF ANTICOMPETITIVE CONDUCT THAT MAINTAINED ITS OPERATING SYSTEM MONOPOLY

This case involves the application of familiar and fundamental tenets of antitrust law. Microsoft recognized that emerging technologies posed a threat to its Windows operating system monopoly and concluded that competition on the merits would not defeat that threat, so it mounted a campaign to maintain its monopoly power through anticompetitive means. At trial, the government focused on that campaign, which provided the basis for the district court's conclusion that Microsoft unlawfully maintained its monopoly in violation of the Sherman Act, 15 U.S.C. 2.

A. The Offense Of Monopolization

1. The offense of monopolization is (1) the willful acquisition or maintenance of monopoly power (2) by the use of anticompetitive conduct "to foreclose competition, to gain a competitive advantage, or to destroy a competitor." *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 482-83 (1992), quoting *United States v. Griffith*, 334 U.S. 100, 107 (1948); *see also United States v. Alcoa*, 148 F.2d 416, 432 (2d Cir. 1945). Such conduct is labeled "exclusionary" or "predatory." *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 602 (1985).

The Supreme Court has described exclusionary conduct as conduct that "'not only (1) tends to impair the opportunities of rivals, but also (2) either does not further competition on the merits or does so in an unnecessarily restrictive way.'" *Aspen*, 472 U.S. at 605 n.32, quoting 3 PHILLIP AREEDA & DONALD F. TURNER, ANTITRUST LAW ¶ 626b, at 78 (1978). If "valid business reasons" do not justify conduct that tends to impair the opportunities of a monopolist's rivals, that conduct is exclusionary. *See Eastman Kodak*, 504 U.S. at 483; *Aspen*, 472 U.S. at 605.[68] The courts assess the

[68] *See also Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1182 (1st Cir. 1994); *Barry Wright Corp. v. ITT Grinnell Corp.*, 724 F.2d 227, 230 (1st Cir. 1993) (Breyer, J.); *Multistate Legal Studies, Inc. v. Harcourt Brace Jovanovich Legal & Prof'l Publ'ns, Inc.*, 63 F.3d 1540, 1550

legality of the defendant's conduct in light of, among other things, the defendant's proffered justifications, the consistency of those justifications with the defendant's actions and assertions, and the sufficiency of those justifications to explain the full extent of conduct. *Eastman Kodak*, 504 U.S. at 483-85.

This Court has described predatory conduct as conduct that:

> involves aggression against business rivals through the use of business practices that would not be considered profit maximizing except for the expectation that (1) actual rivals will be driven from the market, or the entry of potential rivals blocked or delayed, so that the predator will gain or retain a market share sufficient to command monopoly profits, or (2) rivals will be chastened sufficiently to abandon competitive behavior the predator finds threatening to its realization of monopoly profits.

Neumann v. Reinforced Earth Co., 786 F.2d 424, 427 (D.C. Cir. 1986) (Bork, J.); *accord* ROBERT H. BORK, THE ANTITRUST PARADOX 144-45 (1993) (noting that, in any realistic theory of predation, the predator views its costs of predation as "an investment in future monopoly profits"). Predatory conduct is, of course, exclusionary. Such conduct, "by definition as well as by nature, lacks procompetitive business motivation." CL at 38 (JA 2418).

The Supreme Court's decisions in *Eastman Kodak* and *Aspen*, and this Court's decision in *Neumann*, state settled antitrust law. Courts routinely define exclusionary or predatory conduct as conduct that would not make economic sense unless it eliminated or softened competition and thus permitted the costs of the conduct to be recouped through higher profits resulting from the lack of competition.[69]

(10th Cir. 1995); *C.E. Servs., Inc. v. Control Data Corp.*, 759 F.2d 1241, 1247 (5th Cir. 1985).

[69] *See, e.g.*, *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 588-89 (1986); *Stearns Airport Equip. Co., Inc. v. FMC Corp.*, 170 F.3d 518, 524 & n.3 (5th Cir. 1999); *Advanced Health-Care Servs. v. Radford Cmty. Hosp.*, 910 F.2d 139, 148 (4th Cir. 1990); *Gen. Indus. Corp. v. Hartz Mountain Corp.*, 810 F.2d 795, 803 (8th Cir. 1987).

2. Neither Microsoft nor its amici dispute that the standards for exclusionary and predatory conduct, set out above, are correct statements of the law. *See* MS Br. 98-99. Rather, they incorrectly contend that the district court applied different standards, notwithstanding that court's explicit reliance on the antitrust principles set out in *Eastman Kodak*, *Aspen*, and *Neumann*. *See* CL at 37-38 (JA 2417-18). They then attack those different standards, which the district court did not endorse.

First, Microsoft asserts that the district court improperly applied a particular "burden-shifting approach" under which, Microsoft says, "[a]ccording to the district court, if the evidence reveals a significant 'exclusionary' impact – apparently, anything that adversely affects a rival – then 'liability will attach' unless 'the defendant comes forward with specific, procompetitive business motivations that explain the full extent of its exclusionary conduct.'" MS Br. 98, quoting CL at 37-38 (JA 2417-18). Microsoft misstates the court's understanding of "exclusionary" conduct. In the sentence immediately preceding the passage that Microsoft quotes, the court stated that conduct is "exclusionary" when it "*has restricted significantly, or threatens to restrict significantly, the ability of other firms to compete in the relevant market on the merits of what they offer customers*." CL at 37 (emphasis added) (JA 2417). The district court quoted Justice Scalia's statement in *Eastman Kodak* that "exclusionary or anticompetitive behavior[] threatens to defeat or forestall the corrective forces of competition." *Id.*, quoting 504 U.S. at 488 (Scalia, J., dissenting). In stating that the defendant must come forward with a procompetitive explanation, the court relied on *Eastman Kodak*. CL at 38 (JA 2418). The district court understood the relevant standard and properly "distinguish[ed] between anticompetitive conduct that prevents a competitor from reaching the marketplace . . . and procompetitive conduct that defeats a competitor in the marketplace through improved products, increased distribution and lower prices." MS Br. 98-99. Furthermore, as the

Supreme Court's decisions in *Eastman Kodak* and *Aspen* illustrate, there is nothing improper about requiring a monopolist to come forward with legitimate business justifications for conduct that appears to be anticompetitive. The district court simply applied settled law. *See* CL at 37-38 (JA 2417-18).

Second, Microsoft mischaracterizes the district court's discussion of the relevance of evidence that a defendant intended to engage in exclusionary conduct. Microsoft claims that the court "erroneously relied on evidence of Microsoft's intent to win business from Netscape in concluding that Microsoft's conduct was anticompetitive." MS Br. 99, citing CL at 37 n.1 (JA 2417-18). The court's statement, however, makes the very different and correct point that evidence showing that Microsoft's "conduct was motivated by a desire *to prevent other firms from competing on the merits* can contribute to a finding that the conduct has had, or will have, the intended, exclusionary effect." CL at 37 n.1 (emphasis added) (JA 2417-18), citing *United States v. U.S. Gypsum Co.*, 438 U.S. 422, 436 n.13 (1978) (evidence of "intent may play an important role in divining the actual nature and effect of the alleged anticompetitive conduct").

Third, Microsoft's amici incorrectly assert that the district court articulated a legal standard that subjected Microsoft to liability because it did not pursue "short-term profit maximization." ACT Br. 14. The district court, however, did *not* adopt or apply any such standard. The court neither focused on the "short term" nor condemned conduct merely because it sacrifices some short-term profits. *See* CL at 37-39 (JA 2417-19). Instead, the court disapproved specific conduct that impeded competition on the merits and would not otherwise be profitable over the short-term or the long-term. *See, e.g., id.* at 37 n.1, 38 (JA 2417-18) (condemning costly conduct that offers "no prospect of compensation other than the erection or preservation of barriers against competition by equally efficient firms"). Indeed, the amici ultimately concede that the district court did not apply the standard they attribute to it and that the court properly treated much of Microsoft's conduct as lawful competition on the merits even if it may have been unprofitable in the short term. *See* ACT Br. 15.

B. Microsoft Has Monopoly Power

As Microsoft acknowledges (MS Br. 84), monopoly power is the "power to control prices or exclude competition." *Eastman Kodak*, 504 U.S. at 481; *United States v. E.I. du Pont de Nemours & Co.*, 351 U.S. 377, 391 (1956). The district court correctly rejected Microsoft's astounding proposition that "it does not possess 'monopoly power' in a properly defined market." MS Br. 84-96.

The government may demonstrate monopoly power through evidence showing the defendant's dominant share of the relevant market. *See, e.g., United States v. Grinnell Corp.*, 384 U.S. 563, 571 (1966). Under that traditional "structural" approach, the government 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 . . . ." *Rebel Oil Co. v. Atl. Richfield Co.*, 51 F.3d 1421, 1434 (9th Cir. 1995). The government also may rely on direct evidence of the defendant's behavior and its market effects to prove monopoly power. *See, e.g.*, *Eastman Kodak*, 504 U.S. at 477 (relying on "direct evidence" that Kodak "raise[d] prices and dr[o]ve out competition"); *Re/Max Int'l, Inc. v. Realty One, Inc.*, 173 F.3d 995, 1016-19 (6th Cir. 1999). The district court's findings demonstrated monopoly power under both approaches. *See* CL at 36-37 (JA 2416-17); *see also* pp. 8-9, *supra*.

The district court first identified the correct legal standards for assessing monopoly power. *See* CL at 36 (JA 2416). It then applied those standards to unassailable findings of fact drawn from all of the relevant evidence, structural and behavioral, respecting Microsoft's market power. *See id.*; FF 18-67 (JA 2252-66). The court specifically found that Microsoft possessed a "dominant, persistent, and increasing share of the relevant market," protected by a "substantial barrier to effective entry." CL at 36 (JA 2416). Microsoft was therefore able to "charge a price for Windows substantially above that which could be charged in a competitive market. Moreover, it could do so for a significant period of time without losing an unacceptable amount of business to competitors." FF 33 (JA 2257); *see also* CL 36-37 (JA 2416-17). Furthermore, "Microsoft has comported itself in a way that could only be consistent with rational behavior for a profit-maximizing firm if the firm knew that it possessed monopoly power, and if it was motivated by a desire to preserve the barrier to entry protecting that power." CL at 37 (JA 2417). Microsoft's largely factual criticisms of the district court's determinations are without merit.

1. The District Court Correctly Found That The Relevant Market Is "The Licensing Of All Intel-Compatible PC Operating Systems Worldwide"

a. The court below correctly recognized that whether a category of commercial activity qualifies as a market, for purposes of the Sherman Act, "depends on whether it includes all products 'reasonably interchangeable by consumers for the same purposes.'" CL at 36 (JA 2416), quoting *du Pont*, 351 U.S. at 395. "To define a market in product and geographic terms is to say that if prices were appreciably raised or volume appreciably curtailed for the product within a given area, while demand held constant, supply from other sources could not be expected to enter promptly enough and in large enough amounts to restore the old price and volume." *Rothery Storage & Van Co. v. Atlas Van Lines, Inc.*, 792 F.2d 210, 218 (D.C. Cir. 1986); *accord Coastal Fuels of P.R., Inc. v. Caribbean Petroleum Corp.*, 79 F.3d 182, 197 (1st Cir. 1996); *Rebel Oil*, 51 F.3d at 1434. While Microsoft does not articulate a test for market definition, it expressly cites *du Pont* and *Rothery* as controlling precedent. MS Br. 86-87.

On the basis of *du Pont*, *Rothery,* and similar decisions, the district court concluded that "the licensing of all Intel-compatible PC operating systems worldwide" is the relevant market for assessing the government's monopoly maintenance claim. CL at 36 (JA 2416). The court found that a single firm or cartel within that market "could set the price of a license substantially above that which would be charged in a competitive market and leave the price there for a significant period of time without losing so many customers as to make the action unprofitable." FF 18 (JA 2252); *see* CL at 36 (JA 2416). The court's detailed findings, which considered both demand and supply substitutability, amply support its conclusion that the relevant market encompasses "the licensing of all Intel-compatible PC operating systems worldwide." *See* CL at 36 (JA 2416); FF 18-30 (JA 2252-56). *See also Rothery*, 792 F.2d at 218 (describing the concepts of demand and supply substitutability). This Court, in turn, is obliged to uphold those findings of fact respecting market definition, as well as the existence *vel non* of monopoly power, unless Microsoft can demonstrate that those findings are clearly erroneous. *See Int'l Boxing Club of N.Y., Inc. v. United States*, 358 U.S. 242, 251 (1959); *du Pont*, 351 U.S. at 381; *United States v. W. Elec. Co.*, 900 F.2d 283, 293 (D.C. Cir. 1990); *Ass'n for Intercollegiate Athletics for Women v. NCAA*, 735 F.2d 577, 584 (D.C. Cir. 1984).

b. Microsoft is unable to point to any legal error in the district court's market definition, and its fact-based challenges come nowhere close to satisfying the clear error standard.

First, Microsoft contends that the district court erred in excluding from the relevant market those middleware products – Navigator and Java – that threatened the Windows monopoly. MS Br. 85-87. That argument is unsound. The relevant market includes only substitutes "reasonably interchangeable by consumers for the same purposes." *du Pont*, 351 U.S. at 395; *see Rothery*, 792 F.2d at 218. The district court properly excluded middleware from the market at issue here because – as Microsoft concedes (MS Br. 86) – no middleware product currently serves the same purposes as the Windows operating system. FF 28-29 (JA 2255). Simply put, an operating system runs the PC, but middleware does not. *Id.*; *see* p. 11, *supra*. Middleware programs such as Navigator and Java have competitive significance for operating systems because, by enabling applications written for them to run on the various operating systems on which they run, they have the potential to make those various operating systems *better substitutes for each other*. FF 68 (JA 2266). Such middleware is thus a complement to, rather than a substitute for, an operating system. FF 69 (JA 2266). It is plainly not part of the relevant market. Notwithstanding Microsoft's speculations about future middleware developments (MS Br. 86), middleware is not now a substitute for Windows and will not be one for the foreseeable future.

Second, Microsoft argues that the court's definition of the relevant market is too narrow because it does not include various alternatives to Intel-compatible operating systems to which consumers could potentially turn. MS Br. 87-88. The law is well settled, however, that a relevant market for antitrust purposes cannot meaningfully encompass the "infinite range" of substitutes that might be imagined. *Times-Picayune Publ'g Co. v. United States*, 345 U.S. 594, 612 n.31 (1953). A court should exclude from its market definition a "product to which, within reasonable variations in price, only a limited number of buyers will turn." *Id.* The court below considered a broad range of possible alternative products and correctly found that, individually and collectively, they were not adequate substitutes. FF 18-29 (JA 2252-56). Microsoft alleges no specific legal or factual error in the court's analysis; rather, it simply repeats the testimony that the district court considered and properly rejected. For example, Microsoft suggests (MS Br. 87) that Apple's Mac OS provides a good substitute, but it fails to rebut the district court's specific finding that the Mac OS does not "present a significant percentage of users with a viable substitute for Windows." FF 47, 21 (JA 2260, 2253). Indeed, Microsoft's market share would "still stand well above eighty percent" even if the Mac OS were included in the market. FF 35 (JA 2257). Microsoft also asserts (MS Br. 87-88) that firms not currently producing PC operating systems could do so and therefore should be included in the relevant market. The district court found, however, that the applications barrier to entry would prevent such competition from significantly constraining Microsoft for the foreseeable future. *See* FF 30-31 (JA 2256); pp. 57-60 *infra*.

2. The District Court Correctly Concluded That Microsoft Has Monopoly Power

The district court determined whether Microsoft possessed monopoly power in the relevant market by assessing whether the company's "ability (1) to price substantially above the competitive level *and* (2) to persist in doing so for a significant period without erosion by new entry or expansion." CL at 37, quoting 2A PHILLIP E. AREEDA, ET AL., ANTITRUST LAW ¶ 501, at 86 (1995) (JA 2417). That test implements the basic principle that, "[w]hen a product is controlled by one interest, without substitutes available in the market, there is monopoly power." *NCAA v. Bd. of Regents of Univ. of Okla.*, 468 U.S. 85, 112 (1984), quoting *du Pont*, 351 U.S. at 394. Microsoft does not dispute that the district court correctly states the test for assessing monopoly power. *See, e.g., AD/SAT v. Associated Press*, 181 F.3d 216, 227 (2d Cir. 1999). Nor does Microsoft challenge the court's finding that Microsoft "could charge a price for Windows substantially above that which could be charged in a competitive market" and "do so for a significant period of time without losing an unacceptable amount of business to competitors." FF 33 (JA 2257). Microsoft's criticism of certain fact-findings (MS Br. 87-96) does not undermine the conclusion that Microsoft has monopoly power.

a. Microsoft's Dominant, Persistent, And Increasing Market Share Supports A Finding Of Monopoly Power

The government "proved at trial that Microsoft possesses a dominant, persistent, and increasing share of the relevant market." CL at 36 (JA 2416). That market share has been more than 90% for the past decade, has recently been at least 95%, and "analysts project that the share will climb even higher." FF 35 (JA 2257). The district court recognized that Microsoft's market share, which would be "well above" 80% even if the market were enlarged to include the Mac operating system, *id.*, is highly relevant in determining whether Microsoft has monopoly power. CL at 36 (JA 2416); *see Grinnell*, 384 U.S. at 571 (monopoly power "ordinarily may be inferred from the predominant share of the market"); *see also, e.g.*, *Eastman Kodak*, 504 U.S. at 481 (finding basis for monopoly power where seller possesses 80% of market); *accord Grinnell*, 384 U.S. at 571 (87%); *du Pont*, 351 U.S. at 384, 391 (75%); *Am. Tobacco Co. v. United States*, 328 U.S. 781, 797 (1946) (67%).

Microsoft does not dispute that it has an overwhelming market share but takes issue with the relevance of its dominant position. MS Br. 91-93. Microsoft is correct that "market share" – *by itself* – "is not determinative of monopoly power." *Id.* at 91 (capitalization altered). Microsoft argues that a monopolist's market share is significant only if the monopolist has sufficient control of "productive assets" that rivals could not, for that reason, effectively respond to consumer demand left unmet if the monopolist raises price and curtails output. *See id.* at 91-93, citing *Ind. Grocery, Inc. v. Super Valu Stores, Inc.*, 864 F.2d 1409, 1414 (7th Cir. 1989), and *Ball Mem'l Hosp., Inc. v. Mutual Hosp. Ins., Inc.*, 784 F.2d 1325, 1335 (7th Cir. 1986). But Microsoft's argument, that only control of tangible facilities and similar assets can allow the exercise of monopoly power, is obviously incorrect. For example, a firm could have monopoly power if its market share were protected by a legal bar excluding other firms from the market even if the excluded firms had the facilities and other "productive assets" needed to enter. The cases Microsoft cites stand for the self-evident proposition that monopoly power cannot exist if rivals can easily "supply consumers' wants." MS Br. 93, quoting *Ball Memorial*, 784 F.2d at 1335. Microsoft asserts that "niche players" in the market "could quickly expand their output to satisfy the entire demand for operating systems." MS Br. 91. But because "niche players" do not offer users access to sufficient applications, they cannot adequately "supply consumers' wants" and thus do not provide "commercially viable alternative[s] to which [OEMs] could switch in response to a substantial and sustained price increase or its equivalent by Microsoft." FF 54 (JA 2262).

b. Microsoft Is Protected By Barriers To Entry That Support A Finding Of Monopoly Power

The district court specifically found that "Microsoft's dominant market share is protected by a high barrier to entry," namely, the "applications barrier to entry." *See* FF 34, 36-52 (JA 2257-62). That finding, which is supported by testimony from Microsoft's witnesses (Kempin Tr. 2/25/99 pm at 99-100, Rose Tr. 2/17/99 pm at 19-20, 24-25 (JA 14253-54, 14227-30)), is significant: "Together, the proof of dominant market share and the existence of a substantial barrier to effective entry create the presumption that Microsoft enjoys monopoly power." CL at 36 (JA 2416). Microsoft incorrectly characterizes (MS Br. 93) the applications barrier as the "single barrier to entry," but the government alleged and proved other barriers as well. *See, e.g.*, US Compl. ¶¶ 3, 7 (JA 139, 141); FF 38, 43 (describing the need for competitors to make large, unrecoverable, front-end investments of time and money) (JA 2258, 2259); *see also, e.g.*, Warren-Boulton ¶¶ 46-50, 55 (JA 3183-85, 3187-88); Warren-Boulton Tr. 12/1/98 am at 30-31 (JA 14070-71); ACT Br. 2-3. The applications barrier is simply the most prominent barrier and the one highlighted by the court.

Microsoft argues incorrectly (MS Br. 93-96) that the applications barrier does not exist. First, Microsoft contends that the barrier "is nothing more than consumer demand for a platform that supports popular applications." MS Br. 93. That characterization misapprehends the significance of barriers to entry. Contrary to Microsoft's suggestion, barriers to entry are not limited to "government regulation or licensing requirements," "onerous front-end investments," or "dependen[cy] on a scarce commodity." MS Br. 93-94, quoting examples from *United States v. Syufy Enters.*, 903

F.2d 659, 666-67 (9th Cir. 1990). Rather, as this Court stated in a similar antitrust context, "[a]ny market condition that makes entry more costly or time-consuming and thus reduces the effectiveness of potential competition as a constraint on the pricing behavior of the dominant firm should be considered a barrier to entry, regardless of who is responsible for the existence of that condition." *S. Pac. Communications Co. v. AT&T*, 740 F.2d 980, 1001 (D.C. Cir. 1984). Indeed, it is hornbook antitrust law that a barrier to entry is "any factor that permits firms already in the market to earn returns above the competitive level while deterring outsiders from entering." 2A AREEDA ¶ 420a, at 55-56. Microsoft's expert economist concurred in that definition. Schmalensee Tr. 1/14/99 am at 7 (JA 14176).

Next, Microsoft disputes the district court's factual findings without acknowledging its burden under the clear error standard. *See* pp. 45-46, *supra*. Microsoft contends that "the entry barriers faced by an entrepreneur with a software package to sell are truly insignificant." MS Br. 94. But the district court found that a potential competitor in the *operating system* market faces extraordinary obstacles to entry in light of the high fixed costs, the positive network effects favoring Microsoft's installed base, consumer insistence on access to a large and growing array of applications, and the need to convince ISVs to write for an upstart operating system. FF 37-41 (JA 2257-59). The district court specifically rejected Microsoft's assertion (MS Br. 94) that the Linux "open source" OS has created a "serious platform threat to Windows." FF 50-51 (JA 2261-62).

Microsoft also argues that the need to "persuad[e] ISVs to write applications" is not "a cost disproportionately borne by new entrants." MS Br. 94. But this argument is immaterial as a matter of law and wrong as a matter of fact. In support of its focus on disproportionate costs, Microsoft cites (MS Br. 94) only *Los Angeles Land Co. v. Brunswick Corp.*, 6 F.3d 1422 (9th Cir. 1993), but that decision embraced, as an alternative definition of entry barriers, the very standard articulated by

Professor Areeda. *Id.* at 1427-28 ("factors in the market that deter entry while permitting incumbent firms to earn monopoly returns"); *accord W. Parcel Express v. UPS*, 190 F.3d 974, 975 (9th Cir. 1999); *Am. Prof'l Testing Serv., Inc. v. Harcourt Brace Jovanovich Legal & Prof'l Publ'ns, Inc.*, 108 F.3d 1147, 1154 (9th Cir. 1997). Indeed, Microsoft's definition of a barrier to entry includes only factors that serve to "block[] entry forever," and therefore disserves the aims of antitrust law because "[a]ntitrust's concern is not merely with market power that may be exercised indefinitely but also with market power that can be exercised for a substantial period of time." 2A AREEDA ¶ 420c, at 60-61.

In any event, the facts found by the court satisfy even Microsoft's erroneous test. The district court found that the cost to a would-be entrant exceeds the costs that Microsoft itself faced because "Microsoft never confronted a highly penetrated market dominated by a single competitor." FF 43 (JA 2259). The court acknowledged that Microsoft makes "evangelization" expenditures to maintain its dominant position but correctly observed that it is hardly surprising that "the principal beneficiary of the applications barrier [would] devote more resources to augmenting it than aspiring rivals are willing to expend in speculative efforts to erode it." *Id.*; *see also* FF 44 (JA 2260).

Microsoft takes passing issue (MS Br. 91, 94-96) with the district court's findings respecting the effectiveness of the applications barrier (FF 45-52 (JA 2260-62)) and the viability of alternatives to Windows (FF 53-56 (JA 2262-63)). Microsoft asserts that "ISVs freely write applications for platforms other than Windows." MS Br. 95. But the district court found – and Microsoft does not dispute – that many of the platforms to which Microsoft refers are "niche" operating systems that offer little competition for Windows, largely because of a paucity of applications. *See* FF 48-50 (JA 2260-61). And contrary to Microsoft's implication (MS Br. 96), the district court specifically found that the applications barrier significantly handicapped even the two non-niche operating systems for which the most applications had been written, those of IBM and Apple. FF 45-47 (JA 2259-60).

Microsoft's arguments largely ignore the district court's findings, which fully answer Microsoft's further contentions respecting the "first mover" phenomenon (*compare* MS Br. 95 *with* FF 42, 49-51 (JA 2259, 2261-62)) and Web-based applications (*compare* MS Br. 95 *with* FF 27 (JA 2255)). As to Microsoft's discussion of the relevance of the number of available applications, it does not simply ignore the court's findings – it mischaracterizes them. Microsoft states, for example, that "[i]t defies common sense to suggest, as the district court did, that a platform must support 70,000 applications to be competitive." MS Br. 96. But the court actually made a very different point:

> The consumer wants an operating system that runs not only types of applications that he knows he will want to use, but also those types in which he might develop an interest later. Also, the consumer knows that if he chooses an operating system with enough demand to support multiple applications in each product category, he will be less likely to find himself straitened later by having to use an application whose features disappoint him. Finally, the average user knows that, generally speaking, applications improve through successive versions. He thus wants an operating system for which successive generations of his favorite applications will be released – promptly at that. The fact that a vastly larger number of applications are written for Windows than for other PC operating systems attracts consumers to Windows, because it reassures them that their interests will be met as long as they use Microsoft's product.

FF 37 (JA 2257-58). That finding, which Microsoft does not directly challenge, explains why the applications barrier exists and "prevent[s] an aspiring entrant into the relevant market from drawing a significant number of customers away from a dominant incumbent even if the incumbent priced its products substantially above competitive levels for a significant period of time." FF 36 (JA 2257).

c. Microsoft's Conduct Did Not Negate A Finding Of Monopoly Power

Because of its overwhelming share of the relevant market and the protection of a highly effective barrier to entry, Microsoft has monopoly power. The court correctly rejected (CL at 37 (JA 2417)) Microsoft's assertion that it "does not behave like a monopolist." MS Br. 88 (capitalization altered).

First, Microsoft argues (*id.*) that its substantial research and development (R&D) budget is inconsistent with the possession of monopoly power. The court properly rejected that argument for obvious reasons. A monopolist has powerful incentives to invest in R&D to improve its product. With a better product, the monopolist will be able to sell more or charge a higher price. *Cf. United States v. AT&T*, 552 F. Supp. 131, 167 (D.D.C. 1982) (although a monopolist, AT&T was "a positive force both in basic and in applied research, and this research . . . had a beneficial effect on the nation's economic position"), *aff'd sub nom. Maryland v. United States*, 460 U.S. 1001 (1983).

Microsoft also contends (MS Br. 89-90) that its pricing practices are inconsistent with the possession of monopoly power, but the court found to the contrary that Microsoft's pricing practices indicated that Microsoft consciously exercises monopoly power. FF 62 (JA 2264-65). Microsoft argues that, if it possessed monopoly power, it would have charged "the short-term profit-maximizing price for Windows," which, it estimates, would be many times the price it did charge. MS Br. 90. The court sensibly rejected Microsoft's premise that a monopolist would maximize short-term profits:

> Microsoft could be stimulating the growth of the market for Intel-compatible PC operating systems by keeping the price of Windows low today. . . . By pricing low relative to the short-run profit-maximizing price, thereby focusing on attracting new users to the Windows platform, Microsoft would also intensify the positive network effects that add to the impenetrability of the applications barrier to entry.

FF 65 (JA 2265). *See also* Fisher Tr. 1/12/99 am at 24-25 (colloquy with court), 1/12/99 pm at 18, 6/2/99 am at 5-6, 6/4/99 am at 12-13 (JA 7292-93, 7328, 8790-91, 14282-83); *cf.* ACT Br. 2 (noting the importance of network effects). The court reasonably doubted that the available evidence supported an accurate determination of what price "a profit-maximizing firm with monopoly power would charge for Windows 98." FF 65 (JA 2265). And the court found that the price charged by Microsoft could not in any event rebut the inference of its monopoly power because "Microsoft expends a significant portion of its monopoly power, which could otherwise be spent maximizing price, on imposing burdensome restrictions on its customers – and in inducing them to behave in ways – that augment and prolong that monopoly power." FF 66 (JA 2265).

Finally, in assessing whether it acted like a monopolist, the court noted that Microsoft's anticompetitive conduct harmed both consumers and OEMs and that Microsoft was able to act without effective discipline from rivals. FF 67 (JA 2266). The court also found that both users and OEMs believe that there are no "viable alternatives" to Windows. FF 54-55 (JA 2262); *see also* GX 309 (JA 14551); Fisher ¶¶ 62-63 (JA 13892-95); Norris Tr. 6/7/99 am at 66-67 (JA 8999-9000).

C. Microsoft Engaged In A Multifaceted Campaign Of Exclusionary Conduct That Maintained Its Monopoly Power

Microsoft contends that, even if it had monopoly power, it "did not engage in anticompetitive conduct." MS Br. 97-114. The district court correctly found otherwise on the basis of overwhelming proof, including extensive evidence drawn from Microsoft's own internal documents. *See* FF 79-356 (JA 2268-335). Those comprehensive findings chronicle Microsoft's actions in rich detail and carefully distinguish between Microsoft's competitive and anticompetitive actions. Microsoft responds to those findings by defending conduct that the district court did not condemn and largely ignoring the conduct that the court found anticompetitive.

If Microsoft had confined itself to improving and promoting its products on their merits, it would have faced no antitrust liability, whatever the effect on its rivals. Developing and improving its own Web browser, making it widely available, and encouraging its use based on the merits of the product constituted competition on the merits. Similarly, improving the quality of Windows by including Web browsing or other functionalities without separate charge might have made business sense without regard to the possibility of excluding competitors and subsequent recoupment through the exercise of monopoly power. The court expressly acknowledged the benefits of such conduct. FF 186, 408

(JA 2293, 2348); *see also* FF 389, 396, 407 (acknowledging the technical merit and potential business justification for Microsoft's investment in a high quality Java component) (JA 2343, 2345, 2348).

But Microsoft did not confine its conduct to competition on the merits. Instead, it deliberately embarked on a multifaceted campaign of anticompetitive conduct to protect its operating system monopoly that the district court found to violate Section 2. *See* CL at 37-44 (JA 2417-24). We begin by highlighting specific anticompetitive actions that the government proved at trial and then respond to Microsoft's arguments defending its actions.

1. The District Court Imposed Liability Based On Microsoft's Anticompetitive Conduct

When Microsoft realized that it could not otherwise insulate itself from the threats posed by Navigator and Java, it embarked on a course of anticompetitive conduct. Microsoft first attempted to reach a non-competition agreement with Netscape. *See* pp. 13-14, *supra*. It proposed that Netscape leave platform-level browsing technology for Windows 95 to Microsoft, in exchange for Microsoft's leaving the browser business for other operating systems to Netscape. *See* FF 79-89 (JA 2268-71); *see also* pp. 88-89, *infra*. When that attempt failed, Microsoft took actions to exclude Navigator from the "two distribution channels that lead most efficiently to browser usage," OEM pre-installation of a browser and IAP bundling of a browser with the service. FF 144-45, 148 (JA 2284-85); *see* pp. 15-16, *supra*. Microsoft focused on browser usage because relative usage shares largely determine the attractiveness of platforms to applications developers. *See* FF 359 (JA 2336); CL at 53 (blocking distribution that leads efficiently to usage rendered Navigator "harmless" as platform threat) (JA 2433); pp. 31-33, *supra*.

Microsoft's anticompetitive campaign to foreclose Netscape from the OEM distribution channel went far beyond offering IE to OEMs in a bundle with Windows at no extra charge. Had Microsoft stopped there, it would not have violated the antitrust laws. But Microsoft instead embarked on an anticompetitive campaign that: (1) "forced OEMs to take [IE] with Windows and forbade them to remove it or obscure it"; (2) "imposed additional technical restrictions to increase the cost of promoting Navigator even more"; (3) "offered OEMs valuable consideration in exchange for commitments to promote [IE] exclusively"; and (4) "threatened to penalize individual OEMs that insisted on pre-installing and promoting Navigator." FF 241 (JA 2307). These anticompetitive acts effectively exiled Netscape from the OEM channel, CL at 40 (JA 2420); FF 239, 241 (JA 2306-07), and they "stifled innovation by OEMs that might have made Windows PC systems easier to use and more attractive to consumers," FF 241 (JA 2307). None served a legitimate purpose. FF 159, 172, 175-77 (JA 2287, 2290-91); *see also* FF 186-87 (JA 2293). To the contrary, they harmed consumers who preferred a different browser or none at all. *See* FF 172-74, 214 (JA 2290-91, 2299); pp. 16-24, *supra*.

Microsoft similarly "made substantial sacrifices, including the forfeiture of significant revenue opportunities, in order to induce IAPs to do four things: to distribute access software that came with [IE]; to promote [IE]; to upgrade existing subscribers to [IE]; and to restrict their distribution and promotion of non-Microsoft browsing software." FF 247 (JA 2308). Those restrictions "were far broader than they needed to be in order to achieve any economic efficiency." *Id.* Instead, they "significantly hampered the ability of consumers to make their choice of Web browser products based on the features of those products," *id.* (JA 2309), and effectively ostracized Navigator from the IAP channel, CL 41-42 (JA 2421-22); *see also* FF 247 (JA 2308); pp. 24-29, *supra*.

Microsoft also acted anticompetitively to prevent the development of cross-platform Java applications. As the court explained, Microsoft aimed to "maximiz[e] the difficulty with which applications written in Java could be ported from Windows to other platforms, and vice versa." FF

386 (JA 2343); *see, e.g.*, FF 390, 394, 401 (JA 2344, 2346). Microsoft took those steps "to drastically limit the ability of developers to write Java applications that would run in both Microsoft's version of the Windows runtime environment and versions complying with Sun's standards." FF 407 (JA 2348). Microsoft's conduct in pursuit of "the goal of protecting the applications barrier," "resulted in fewer applications being able to run on Windows than otherwise would have." *Id.* *See* pp. 35-39, *supra*.

Although the court found that some of what Microsoft did was procompetitive, it concluded that Microsoft ultimately resorted to a series of well-orchestrated *anticompetitive* actions to protect its operating system monopoly and thereby "placed an oppressive thumb on the scale of competitive fortune." CL at 44 (JA 2424). "Microsoft mounted a deliberate assault upon entrepreneurial efforts that, left to rise or fall on their own merits, could well have enabled the introduction of competition into the market for Intel-compatible PC operating systems." *Id.* Those efforts to interfere with the distribution of Navigator in the OEM and IAP channels and to impede cross-platform Java applications were costly for Microsoft, and they were anticompetitive because they would not have made business sense and "'would not be considered profit maximizing except for the expectation that . . . the entry of potential rivals' into the market for Intel-compatible PC operating systems will be 'blocked or delayed.'" *Id.*, quoting *Neumann*, 786 F.2d at 427.

2. The District Court Did Not Condemn Microsoft For Developing Or Improving Its Products

Microsoft characterizes the district court as holding "that Microsoft's integrated design of Windows violated Section 2" and suggests that the court based Microsoft's liability on "design changes that improve a product." MS Br. 100-01. At the outset, it is important to emphasize the inaccuracy of these characterizations. The court premised liability on Microsoft's contractual and coercive restraints in the OEM channel; its IAP, ICP, and ISV strategies; its furnishing of misleading development tools to ISVs in order to undermine Java; and its coercion of Intel, Apple, and others. CL at 39-40 (JA 2419-20); *see* FF 202-357, 386-407 (JA 2296-336, 2343-48). None of this conduct involved product design. Insofar as the court's holding did relate to product design, Microsoft's characterizations are also incorrect. The court distinguished between lawful procompetitive design changes and anticompetitive actions relating to design features. The district court specifically found aspects of Microsoft's conduct in developing a Web browser and offering it to OEMs and users with Windows to be lawful. The court acknowledged that "Microsoft's provision of Web browsing functionality with its Windows operating system" can benefit consumers. *See* FF 186, 408-09 (JA 2293, 2348-49). The court also did not condemn Microsoft for using HTML rendering and other technologies used in browsing to provide non-browsing functions. *See* FF 177-88 (describing feasibility of removing browsing functionality from Windows 98 without impairing non-browsing functions) (JA 2291-93).

The court condemned very limited aspects of Microsoft's product design. The court found that Microsoft's decision to exclude IE from the dozens of features subject to the Add/Remove utility in Windows 98 and to hard-wire IE as the default browser served no legitimate purpose. FF 170-94 (JA 2290-95). And it found Microsoft's actions in commingling browsing and non-browsing routines in the same file "to a greater degree than is necessary to provide any consumer benefit" "unjustifiably jeopardized the stability and security of the operating system," "increased the likelihood that a browser crash will cause the entire system to crash," and therefore "harmed even those consumers who desire to use [IE] and no other browser." FF 174 (JA 2291); *see* FF 161-64 (JA 2288). (Microsoft's James Allchin admitted on cross-examination that Windows 98 contains code used only to browse the Web. Tr. 2/2/99 am at 65-67 (JA 14208-10). His contrary direct testimony (*see* MS

Br. 79) did not even address Windows 95.) Contrary to Microsoft's assertion, the court did not object to "Microsoft's development and marketing of its own Java implementation." MS Br. 111 (capitalization altered). It recognized Microsoft's justification for developing an attractive alternative Java implementation. But the court also found intentional incompatibility with other Java implementations that Microsoft would not have created absent its commitment "to protecting and enhancing the applications barrier to entry," for the result was "fewer applications being able to run on Windows than otherwise would have." FF 407 (JA 2348); *see* FF 390 (JA 2344).

In making these findings, however, the court did not engage in an improper inquiry into the reasonableness of Microsoft's product designs. *Compare United States v. Microsoft Corp.*, 147 F.3d 935, 949-50 (D.C. Cir. 1998) (*Microsoft II*) (evaluation of claim of technological integration must be "narrow and deferential"; question is not whether integration is a "*net* plus") *with In re IBM Peripheral EDP Devices Antitrust Litig.*, 481 F. Supp. 965, 1003 (N.D. Cal. 1979) (monopolist's design choice violates Sherman Act if "unreasonably restrictive of competition," taking into account "effects of the design on" competitors and consumers, whether design "was the product of desirable technological creativity," and intent). Rather, the court asked only whether the record established a legitimate business justification, a reason for the choice other than injury to competition. *See, e.g.*, FF 175-98, 408-12 (JA 2291-96, 2348-50).

Microsoft does not contend that the district court is forbidden from making that modest inquiry. *See* MS Br. 101-02. Such an argument would be untenable, particularly in the software industry, which involves what Microsoft acknowledged is a uniquely malleable product. MS Br. 84. Software functionalities can almost always be easily repackaged in differing combinations. *See* CL at 49, 51 (JA 2429, 2431); FF 162-63 (JA 2288); *Microsoft II*, 147 F.3d at 951. The affected markets are also subject to strong network effects, *see* FF 39 (JA 2258); ACT Br. 2-3, which can quickly and significantly magnify the impact of predatory strategies. The combination of malleability and network effects gives a software monopolist both the means and a strong incentive to use predatory product design with devastating effectiveness. Insulating design from antitrust scrutiny would encourage such predatory strategies and thus distort market-driven design and innovation. For good reason, then, nothing in antitrust law supports more deference to design claims – which are tested on the evidence – than the court gave. *See, e.g., Cal. Computer Products, Inc. v. IBM Corp.*, 613 F.2d 727, 739, 744 (9th Cir. 1979) (subjecting assumed monopolist's design changes to Section 2 scrutiny, but concluding these changes reduced costs and/or improved performance); *Northeastern Tel. Co. v. AT&T Co.*, 651 F.2d 76, 94-95 & n.29 (2d Cir. 1981) (remanding for new trial in which antitrust plaintiff may attempt to prove that defendant monopolist's design of protective coupler violated Sherman Act); *IBM Peripheral EDP Devices.*, 481 F. Supp. at 1007-08 (concluding that designed degradation of system performance with purpose and effect of precluding competition would have violated Section 2 if defendant had monopoly power).

3. The District Court Correctly Concluded That Microsoft Wrongfully Excluded Netscape Navigator From The OEM Channel

Microsoft makes two general arguments (MS Br. 102-09) in defending its actions to exclude Netscape's Navigator Web browser from the OEM distribution channel. First, Microsoft contends that its restrictive OEM licensing arrangements did not violate Section 2 because the license agreements "simply restate its rights under federal copyright law." MS Br. 103-06 (capitalization altered). Second, Microsoft asserts, more generally, that its conduct did not violate Section 2 because it did not *completely* foreclose Netscape's distribution of Navigator. MS Br. 107-09. Both arguments are incorrect.

a. Copyright Law Does Not Insulate Microsoft's Restrictive OEM License Provisions From The Antitrust Laws

Microsoft contends that provisions in its license agreements prohibiting OEMs from modifying Windows in any unauthorized way cannot violate the antitrust laws, even if they serve no legitimate purpose and instead have the purpose and effect of excluding Netscape from the OEM distribution channel. Microsoft reasons (1) that these provisions "only restate, and do not enlarge, Microsoft's rights under copyright law" (MS Br. 102), and (2) that the exercise of lawfully acquired rights under copyright law cannot "give rise to antitrust liability" (*id.* at 105). Both propositions are wrong.

1. The first proposition fails because Microsoft neither articulated a tenable copyright theory that supports its asserted defense, nor offered evidence to support such a theory. It had the burden to do so. *See, e.g., Tendler v. Jaffe*, 203 F.2d 14, 17 (D.C. Cir. 1953) ("the party asserting an affirmative defense has the burden of establishing it by the necessary proof"). Section 106 of the Copyright Act enumerates a copyright owner's "exclusive rights" in copyrighted works. 17 U.S.C. 106. As Microsoft acknowledges, Section 106 authorizes Microsoft to "reproduce its copyrighted works and prepare derivative works." MS Br. 105, citing 17 U.S.C. 106(1) and (2). Microsoft necessarily licenses to OEMs the right to reproduce; otherwise, OEMs could not ship Windows preinstalled on computers. Microsoft must therefore rely on the derivative works right, but minor modifications to Windows, such as removing the IE icon from the Windows desktop and promoting Navigator in the boot sequence, plainly do not produce a "derivative work." A derivative work is "a work based upon one or more preexisting works" that is "an original work of authorship," 17 U.S.C. 101, and thus copyrightable itself, *see* 17 U.S.C. 102(a). The classic example is a screenplay adapted from a novel.

But not every alteration to a copyrighted work results in a derivative work; the variation must be "original" and "substantial."[70]

Perhaps realizing that, Microsoft instead urges this Court to recognize a different and far more sweeping right that it suggests, without explanation, somehow "derives" from the Copyright Act's specified "exclusive rights." MS Br. 105. Microsoft argues that copyright law prohibits all "unauthorized modifications" to its copyrighted works. *Id.* at 103. But the Supreme Court has made clear that an "unauthorized use[] of a copyrighted work" is not necessarily infringing "unless it conflicts with one of the specific exclusive rights conferred by the copyright statute." *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 447 (1984). As the district court noted, Microsoft's claimed right is "nowhere mentioned among the Copyright Act's list of exclusive rights." CL at 40 (JA 2420). Microsoft purports to find its claimed right in two copyright infringement cases that the district court considered and found inapplicable: *Gilliam v. ABC, Inc.*, 538 F.2d 14 (2d Cir. 1967), and *WGN Cont'l Broad. Co. v. United Video, Inc.*, 693 F.2d 622 (7th Cir. 1982). *See* MS Br. 104-05; CL at 40 n.2 (JA 2420). But however those cases should be read (*Gilliam* pre-dates the 1976 Copyright Act), neither supports the absolute right claimed by Microsoft.

In *Gilliam*, the Second Circuit found, on appeal from a denial of a preliminary injunction, that a broadcaster's extensive editing of a series of "Monty Python" skits could infringe the copyright holder's rights. 538 F.2d at 23. But the court did "not accept appellants' assertion that any editing whatsoever would constitute infringement." *Id.* Rather, the court said that "licensees are entitled to some small degree of latitude in arranging the licensed work for presentation to the public in a manner consistent with the licensee's style or standards." *Id.* The court found likely infringement there

[70] *See* 17 U.S.C. 101; *Woods v. Bourne Co.*, 60 F.3d 978, 990 (2d Cir. 1995); *Gracen v. Bradford Exch.*, 698 F.2d 300, 305 (7th Cir. 1983) (Posner, J.); *Lee v. A.R.T. Co.*, 125 F.3d 580, 582 (7th Cir. 1997); *see also Atari Games Corp. v. Oman*, 888 F.2d 878, 884 (D.C. Cir. 1989).

because the unauthorized editing deleted 27% of the program, and therefore amounted to a "mutilation of [the] work" that deleted "essential elements in the schematic development of a story line." *Id.* at 24-25.

In *WGN*, the Seventh Circuit considered whether a broadcaster's unauthorized retransmission of a copyrighted news program, without the accompanying teletext, infringed a copyrighted audiovisual work. 693 F.2d at 628. Citing *Gilliam*, the court concluded that the deletion and replacement of that obviously substantial portion of the work resulted in infringement. *Id.* at 625. *See also Comm. for Creative Non-Violence v. Reid*, 846 F.2d 1485, 1498 (D.C. Cir. 1988) (an author might have "rights" against the publisher of "an *excessively* mutilated or altered version") (emphasis added), *aff'd on other grounds*, 490 U.S. 730 (1989); *Nat'l Bank of Commerce v. Shaklee Corp.*, 503 F. Supp. 533, 543-44 (W.D. Tex. 1980) (characterizing *Gilliam* as addressing editing "to such an extent that the integrity of the original work was impaired").

Assuming the *Gilliam* line of cases is correct, it does not support Microsoft's claimed right to prohibit any modification of its software program. Rather, those cases recognize that some modifications *are* permissible. As the Supreme Court reiterated in *Sony*, copyright protection "reflects a balance of competing claims upon the public interest." 464 U.S. at 431. The court specifically found that Microsoft did not need to prohibit all OEM modifications to preserve the integrity of the Windows operating system. *See* CL at 41 (JA 2421); *see also* FF 221, 223, 226-28 (JA 2302-04). Microsoft itself allows OEMs to make various modifications in response to consumer demand, and "the OEM modifications that Microsoft prohibits would not compromise the quality or consistency of Windows any more than the modifications that Microsoft currently permits." FF 221 (JA 2302). "Notwithstanding the formal inclusion of these restrictions in the license agreements, the removal of the [IE] icon and the promotion of Navigator in the boot sequence would not have compromised Microsoft's creative expression or interfered with its ability to reap the legitimate value of its ingenuity and investment in developing Windows." FF 228 (JA 2304). The court thus properly held that neither the Copyright Act nor the *Gilliam* line of cases supports Microsoft's claimed right under the copyright laws. CL at 40 & n.2 (JA 2420).

2. Microsoft contends that copyright law provides a defense for its OEM license restrictions that "restate, and do not enlarge" upon what the Copyright Act itself provides. MS Br. 102. Microsoft offers no copyright defense for any license provision that goes beyond merely describing the statutory right, for the cases recognize no such defense. *See, e.g., United States v. Loew's Inc.*, 371 U.S. 38, 45 (1962); *United States v. Paramount Pictures, Inc.*, 334 U.S. 131, 156-59 (1948). But it makes the broad assertion that, "if intellectual property rights have been lawfully acquired . . . their subsequent exercise cannot give rise to antitrust liability." MS Br. 105. In other words, Microsoft asserts immunity from antitrust liability when it withholds from an OEM a license to make the modifications at issue even when the purpose and effect of the withholding are to maintain Microsoft's monopoly. Microsoft's proffered authority does not say that.

Microsoft purports to derive its defense from *In re Independent Service Organizations Antitrust Litigation*, 203 F.3d 1322, 1327-28, 1329 (Fed. Cir.), *petition for cert. filed*, 69 U.S.L.W. 3087 (July 11, 2000) (No. 00-62), but in that case, the court stated that "[i]ntellectual property rights do not confer a privilege to violate the antitrust laws." *Id.* at 1325. With respect to copyright, that decision follows *Data General Corp. v. Grumman Systems Support Corp.*, 36 F.3d 1147, 1187 & n.64 (1st Cir. 1994), which held that a unilateral refusal to license a copyright is protected by a "presumptively valid business justification" that is subject to rebuttal where "imposing antitrust liability is unlikely to frustrate the objectives of the Copyright Act." *See also Image Technical Servs. v. Eastman Kodak*, 125 F.3d 1195 (9th Cir. 1997) (adopting modified version of the *Data General* standard). Even if deleting a single icon from Windows 95 or providing users with additional information in the boot sequence of Windows implicated Microsoft's exclusive right to create derivative works, imposing antitrust liability on Microsoft for prohibiting these minor modifications would hardly frustrate the objectives of the Copyright Act. Such actions neither "compromise[] Microsoft's creative expression" nor interfere with legitimate return for its creativity, FF 228 (JA 2304); Microsoft objects only because they threaten its operating system monopoly.

The other cases Microsoft cites are no more helpful to its defense. Four involve patents, not copyrights, and thus shed no light on the Copyright Act.[71] The rest illustrate the unilluminating proposition that not every use of a copyright violates antitrust law and do not respond to the facts of this case.[72] *See* FF 209-13 (JA 2298-99).

b. Microsoft's Conduct Was Exclusionary Even Though It Did Not Completely Exclude Navigator From The OEM Distribution Channel

Microsoft argues that its "OEM license agreements also are unobjectionable because they do not unduly restrict Netscape's opportunities to distribute Navigator." MS Br. 107. That assertion cannot be reconciled with the findings of fact. The court found that Microsoft's agreements with OEMs, which restricted Navigator's distribution and erected obstacles to Navigator's usage, were not justified by any procompetitive interest and, indeed, were anticompetitive. *See* CL at 39-41 (citing numerous findings) (JA 2419-21); pp. 16-24, *supra* (citing evidentiary basis for findings). The court's

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[71] *See* MS Br. 105 & n.4, citing *United States v. Studiengesellschaft Kohle*, 670 F.2d 1122 (D.C. Cir. 1981); *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195 (2d Cir. 1981); *Simpson v. Union Oil Co. of Cal.*, 377 U.S. 13 (1964); *United States v. Westinghouse Elec. Corp.*, 648 F.2d 642 (9th Cir. 1981).

[72] *See* MS Br. 105-06 & n.4, citing *Montgomery County Ass'n of Realtors, Inc. v. Realty Photo Master Corp.*, 878 F. Supp. 804, 816-17 (D. Md. 1995), *aff'd*, 91 F.3d 132 (4th Cir. 1996); *Advanced Computer Servs. of Mich., Inc. v. MAI Sys. Corp.*, 845 F. Supp. 356, 368-70 (E.D. Va. 1994); *Cardinal Films, Inc. v. Republic Pictures Corp.*, 148 F. Supp. 156, 157-59 (S.D.N.Y. 1957); *BMI v. CBS*, 441 U.S. 1, 19 (1979); *LucasArts Entm't Co. v. Humongous Entm't Co.*, 870 F. Supp. 285, 289-90 (N.D. Cal. 1993).

findings are overwhelmingly supported by the evidence, and their legal sufficiency to support Section 2 liability is not undermined by the fact that Netscape could seek new users through far less efficient and fruitful channels. *See* CL at 53 (JA 2433).

First, the court below applied the correct legal standard. Contrary to Microsoft's suggestions (MS Br. 107), Section 2 of the Sherman Act does not require the government to show that Microsoft took actions that completely denied Netscape access to distribution channels for its Web browser. Section 2 standards require only that the conduct "threatens to have a significant exclusionary impact" in the relevant market, *U.S. Healthcare, Inc. v. Healthsource, Inc.*, 986 F.2d 589, 598 (1st Cir. 1993), or reasonably appears "capable of making a significant contribution to the creation, maintenance, or expansion of monopoly power," 3 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 650a, at 67 (rev. 1996). The district court could therefore find that Microsoft's campaign was "exclusionary" and "anticompetitive" without finding that Microsoft completely denied Netscape access to consumers or even the most preferred channels for distributing its Web browser.

Second, the court correctly applied that standard to the facts. The court assessed the ultimate effect of Microsoft's campaign in the operating system market, where Microsoft maintained its monopoly. The court correctly recognized that Microsoft's attempts to exclude Navigator from the OEM distribution channel were aimed at preventing Netscape from establishing a software platform that would weaken the applications barrier to entry protecting the Windows monopoly. *See* pp. 12, 23-24, *supra*.

Microsoft argues that the OEM license agreements "did not foreclose Netscape's distribution of Navigator." MS Br. 107 (capitalization altered). That contention does not respond to the correct legal standard applied by the district court. Microsoft notes that OEMs were permitted to pre-install Navigator on PCs and that many OEMs did so. MS Br. 107-09 (citing FF 217 (JA 2301)). If

Microsoft is simply denying that it blocked Netscape from *all* OEM distribution, the point is legally irrelevant. The court below found that Microsoft "largely succeeded in exiling Navigator from the crucial OEM distribution channel." FF 239 (JA 2306). That finding is sufficient to establish that Microsoft engaged in exclusionary conduct. If Microsoft instead is disputing the district court's factual finding, its assertion ignores the supporting evidence. Based on an internal Microsoft document, the court found that in January 1998, "of the sixty OEM sub-channels (fifteen major OEMs each offering corporate desktop, consumer/small business, notebook, and workstation PCs), Navigator was being shipped through only four." FF 239 (JA 2307); GX 421 at MS7 000680 (JA 14629). The evidence also supports the court's finding that "most of the PCs shipped with Navigator featured the product in a manner much less likely to lead to usage than if its icon appeared on the desktop." FF 239 (JA 2307). And it is usage, not mere distribution, that affects the middleware threat to Microsoft's monopoly, as Microsoft recognized. *See* pp. 31-32 & 32 n.51, *supra*; *see also* CL at 53-54 (JA 2433-34); FF 359 (JA 2336).

Microsoft cannot credibly contest those findings as clearly erroneous. Indeed, Microsoft's challenge to the district court's finding rests on one ambiguous statement in one document coming out of the November 1998 AOL-Netscape acquisition: "Estimate client [i.e., the Navigator browser] on 22% of OEM shipments with minimal promotion." DX 2440 (sealed) at 341778 (quoted portion unsealed) (JA 12642), cited at MS Br. 108. That lone statement could not possibly upset the district court's determination that Microsoft had effectively exiled Navigator from the OEM channel or that the foreclosure was enough to achieve the relevant anticompetitive effect of preventing Netscape from achieving platform status that would threaten the applications barrier to entry. Nothing in the record explains the source or method of the "[e]stimate" in this anonymous document, which was not subject to cross-examination. The statement includes all shipments, even those without the desktop pre-installation that is most likely to lead to usage. *See* p. 24, *supra*; *see also* GX 2116 (sealed) (JA 17124). And the statement may be an inaccurate shorthand for the quite different proposition that OEMs accounting for 22% of PC shipments include Navigator on at least *some* of their PCs. *See* Fisher Tr. 6/4/99 am at 28-29 (JA 14284-85). In short, that document in no way undermines the court's findings that, in contrast to IE's 100% presence, Netscape's appearance in the OEM channel had been reduced to insignificance in terms of securing actual usage and therefore fulfilling its promise as a middleware threat to Microsoft's operating system monopoly.

As the district court noted, Microsoft did not foreclose every possible means by which Netscape could distribute Navigator, even within the OEM channel. *See* MS Br. 107-09 (citing FF 217-18 (JA 2301)). But the court also determined that those possibilities were of limited significance. *See* FF 217 ("availability of space for added icons did not make including a Navigator icon inexpensive for OEMs"; rather, "increas[ing] the amount of Internet-related clutter on the desktop" "increas[es] the incidence of support calls and product returns"); FF 218 ("click[ing] to invoke an alternate user interface" results in a "mode of presentation [that] proved to be much less effective than the one Microsoft foreclosed"; developing effective displays to run before Windows began loading required programming and related efforts that were "simply not worth the cost"; special button on keyboard is "extremely costly" and "a less effective form of promotion than automatically advertising Navigator in the initial boot process") (JA 2301). Microsoft's suggestion (MS Br. 108) that the court was wrong in assessing customer confusion overlooks the trial evidence, which the court, as factfinder, properly credited. *See* FF 217 (JA 2301); *see also* FF 159 (JA 2287); p. 17 & n.25, *supra*. In any event, that challenge misses the point: Because of Microsoft's anticompetitive conduct, OEMs in fact decided either not to include Navigator at all or not to feature it prominently on PCs loaded with IE. By contrast, *all* PCs had IE.

4. The District Court Correctly Concluded That Microsoft Wrongfully Excluded Netscape Navigator From The IAP Channel

Microsoft contends (MS Br. 109-11) that the district court erred in holding it liable under Section 2 for actions aimed at excluding Navigator from the IAP distribution channel. *See* CL at 41-42 (JA 2421-22). First, Microsoft argues (MS Br. 109-10) that the court's finding that Microsoft's exclusive dealing arrangements with IAPs did not violate Section 1 of the Sherman Act precludes a finding that Microsoft's exclusion of Navigator from the IAP channel violated Section 2. *See also* MS Br. 98-99. Second, Microsoft argues (MS Br. 110-11) that the district court erred, as a matter of fact, in finding that Microsoft had excluded Navigator from the IAP distribution channel. Neither argument is sound.

a. The Court's Section 1 Determination Does Not Preclude A Finding That Microsoft's Exclusion Of Navigator From The IAP Channel Violated Section 2

Microsoft incorrectly relies on the district court's rejection of Section 1 liability as a basis for questioning its Section 2 findings. The court concluded that Microsoft's exclusive dealing contracts with IAPs (as well as with one OEM, Compaq) were not unlawful under Section 1, construing that provision to condemn:

> only those agreements that have the effect of foreclosing a competing manufacturer's brands *from the relevant market*. More specifically, courts are concerned with those exclusive dealing arrangements that work to place so much of a market's available distribution outlets in the hands of a single firm as to make it difficult for other firms to continue to compete effectively, or even to exist, *in the relevant market*.

CL at 52 (emphasis added) (JA 2432). The court found that there was no liability under Section 1 because "the evidence does not support a finding that these agreements completely excluded Netscape from any constituent portion of *the worldwide browser market*, the relevant line of commerce." *Id.* at 53 (emphasis added) (JA 2433).

The government believes that the court's total-exclusion test demands far more than the law requires, but it had no occasion to appeal that ruling because the court's Section 2 remedy provides full relief from the challenged conduct. *See* p. 5, *supra*. In any event, even assuming the correctness of the court's Section 1 ruling, Microsoft's inference that the ruling precludes Section 2 liability does not follow. Microsoft overlooks a fundamental fact: The court's Section 1 ruling addressed the effects of Microsoft's conduct in the *Web browser market*, but the Section 2 monopoly maintenance violation concerns the *operating system market*.

As in the case of the OEM channel, Microsoft's anticompetitive conduct regarding IAPs had the effect of preserving Microsoft's monopoly power in the operating system market. Even if it did not completely exclude Navigator, Microsoft prevented Navigator from becoming so widely used as to provide ISVs with a suitable alternative platform to Windows. *See* CL at 41-42 (JA 2421-22). Microsoft's exclusionary actions in the IAP channel "contributed significantly to preserving the applications barrier to entry." *Id.* at 41 (JA 2421). The government established that Microsoft's conduct resulted in unlawful maintenance of Microsoft's Windows monopoly irrespective of whether Microsoft's conduct was sufficient to establish a restraint of trade in a separate line of commerce: "the Web browser market." *See* CL at 53 (JA 2433).

b. Microsoft's Conduct Was Exclusionary Even Though It Did Not Completely Exclude Navigator From The IAP Distribution Channel

Microsoft erroneously contests (MS Br. 110-11) the district court's conclusion that Microsoft's actions, which lacked pro-competitive justification, "successfully ostracized Navigator" from the IAP channel. *See* CL at 42 (JA 2422); FF 242-310 (JA 2307-24); *see* pp. 24-29, *supra*. Microsoft relies primarily on an anonymous document created at the end of 1998 ("Estimate 24% share of top 20 ISP's distributions," DX 2440 (sealed) at 341778 (quoted portion unsealed) (JA 12642)), and on

AOL's contractual right to replace IE with Navigator in early 2001. MS Br. 110. But the document's percentage figure and AOL's *future right* to change its practices can establish only that, after Microsoft dropped some of its restrictions in the spring of 1998 (FF 271 (JA 2314)), Navigator was not totally excluded from the IAP channel. Microsoft also relies on the same 1998 document to show that Navigator was the default browser on "all RBOC [regional Bell operating companies] and Earthlink distributions." MS Br. 110. But the RBOCs were small-scale IAPs, and any default status for Netscape on Earthlink before mid-1998 was inconsistent with Microsoft's agreement with Earthlink, which barred such status until then. *See* FF 257, 266, 268-69 (JA 2311, 2313-14).

More importantly, Microsoft does not contest the district court's extensive findings supporting its determination that Microsoft "successfully ostracized Navigator as a practical matter" from the IAP channel. CL at 42 (JA 2422); *see* FF 242-310 (JA 2307-24). Nor does Microsoft challenge the court's findings that its restrictions "were far broader than they needed to be in order to achieve any economic efficiency" and that "Microsoft's campaign to seize the IAP channel significantly hampered the ability of consumers to make their choice of Web browser products based on the features of those products." FF 247 (JA 2308-09). And Microsoft does not deny that its campaign was ultimately successful in "protecting the applications barrier to entry" that preserves its operating system monopoly. FF 308 (JA 2324); *see* FF 309-10 (describing Microsoft's dramatic increase in IE usage share) (JA 2324). Like its efforts in the OEM distribution channel, Microsoft's exclusionary efforts in the IAP distribution channel prevented Netscape from eroding the applications barrier to entry. *See* FF 377-85 (JA 2341-42). The district court was entirely justified in concluding that, "whether they are viewed separately or together, the OEM and IAP components of Microsoft's anticompetitive campaign merit a finding of liability under § 2." CL at 42 (JA 2422).

5. The District Court Correctly Ruled That Aspects Of Microsoft's Java Implementation Violated Section 2

Microsoft devotes one paragraph of its brief (MS Br. 111-12) to challenging the court's conclusion that certain aspects of Microsoft's Java implementation were anticompetitive and "restricted significantly the ability of other firms to compete on the merits in the market for Intel-compatible PC operating systems." CL at 43 (JA 2423); *see* pp. 35-39, *supra*. In doing so, Microsoft defends the aspects of its conduct that are defensible but ignores those that are not. The court did not question that Microsoft was entitled to develop "a high-quality JVM that permitted cross-platform programs written in 'pure Java' to run faster and with fewer errors" or that Microsoft was entitled to create "Java development tools that enable ISVs to write either cross-platform Java programs or Java programs that take advantage of unique features and functionality of Windows." MS Br. 111-12.

But the court correctly concluded that Microsoft was *not* entitled to take actions such as using "its monopoly power to prevent firms such as Intel from aiding in the creation of cross-platform interfaces" and "deliberately design[ing] its Java development tools so that developers who were opting for portability over performance would nevertheless unwittingly write Java applications that would run only on Windows." CL at 43 (JA 2423). The court rightly concluded that such actions "cannot be described as competition on the merits, and they did not benefit consumers." *Id.* at 44 (JA 2424). The court correctly found that Microsoft engaged in anticompetitive actions "to obstruct the development of Windows-compatible applications if they would be easy to port to other platforms and would thus diminish the applications barrier to entry." *Id.*; *see* FF 386-407 (JA 2343-48).

6. The District Court Correctly Based Liability On Microsoft's Course Of Conduct As A Whole, As Well As On Its Individual Acts

Microsoft asserts that its "conduct taken as a whole did not violate Section 2." MS Br. 112-14 (capitalization altered). In making that argument, Microsoft primarily focuses on its "agreements with Apple and various ICPs and ISVs," which it says are "not anticompetitive in and of themselves." *Id.* at 112. Microsoft contends that the court wrongly held that "conduct not itself anticompetitive can become unlawful when viewed with other conduct." *Id.* Microsoft misunderstands both the court's decision and the controlling law.

The court below correctly concluded that the "full extent" of Microsoft's investment of "substantial resources to enlist ICPs, ISVs, and Apple in its campaign against the browser threat" lacked a valid business justification and could "only be explained by Microsoft's desire to protect the applications barrier to entry from the threat posed by Navigator." CL at 42-43 (JA 2422-23). The court's conclusion is supported by extensive factual findings, including findings detailing the specific exclusionary effects of Microsoft's actions. FF 311-56, especially 329-30, 340, 355-56 (JA 2325-35, 2329, 2331, 2335); *see* pp. 29-33, *supra*. Microsoft makes no serious effort to show that those findings are clearly erroneous. *See* MS Br. 113-14.

Microsoft mischaracterizes certain actions that supported the court's liability findings as "not anticompetitive in and of themselves." MS Br. 112. The district court imposed liability only for anticompetitive conduct that had "significant exclusionary impact." CL at 38 (JA 2418). Some of Microsoft's acts, although anticompetitive in character, failed to have a "significant exclusionary impact," *see, e.g.*, FF 330, 336 (JA 2329, 2331), so notwithstanding that those acts were anticompetitive in character, the court did not find those acts to be *independent* bases for liability.

Microsoft (MS Br. 112) is also mistaken if it means to suggest that the district court treated conduct that was "not itself anticompetitive" as unlawful in light of its combination with other lawful conduct. Microsoft infers that the court did so by referring to *Continental Ore Co. v. Union Carbide & Carbon Co.*, 370 U.S. 690 (1962). *See* CL at 44 (JA 2424). The district court cited that case for the unexceptional proposition that "plaintiffs should be given the full benefit of their proof without tightly compartmentalizing the various factual components and wiping the slate clean after scrutiny of each," 370 U.S. at 699, and that, when the separate categories of anticompetitive conduct "are viewed, as they should be, as a single, well-coordinated course of action," they reveal "the full extent of the violence that Microsoft has done to the competitive process . . . ." CL at 44 (JA 2424), citing *Continental Ore*.

The district court did not say, or even suggest, that a defendant who "has not engaged in an unlawful conspiracy, and has committed *no* acts in themselves violative of the Sherman Act, could be found guilty of antitrust violations on some theory that the acts have 'synergistic effects' that convert lawful conduct into violations of law." MS Br. 113, quoting *S. Pac. Communications v. AT&T*, 556 F. Supp. 825, 888 (D.D.C. 1982) (emphasis in original), *aff'd,* 740 F.2d 980 (D.C. Cir. 1984). To the contrary, the court found that Microsoft had committed a number of *anticompetitive* acts that, both *independently and collectively*, violated Section 2. *See, e.g.*, CL at 42-43 ("whether they are viewed separately or together, the OEM and IAP components of Microsoft's anticompetitive campaign merit a finding of liability under § 2") (JA 2422-23).

In any event, Microsoft is mistaken if it means to suggest that a series of actions, which standing alone would not be unlawful, can never, in combination, result in a violation of the Sherman Act. *See, e.g.*, *Swift & Co. v. United States*, 196 U.S. 375, 396 (1905). An individual act that serves no legitimate purpose and is intended to exclude a rival might nevertheless have so modest an effect on competition as not to violate the Sherman Act. But a coordinated campaign of such acts that in the aggregate has the requisite impact on the marketplace is unlawful. *See City of Groton v. Conn. Light & Power Co.*, 662 F.2d 921, 929 (2d Cir. 1981). As a matter of both logic and sound antitrust law, the market effects of Microsoft's anticompetitive actions should be considered in their totality. It would be irrational to allow a monopolist to inflict a thousand anticompetitive cuts, many perhaps causing only small injury in isolation, that collectively extinguish or disable competition in the relevant market. The Sherman Act does not require courts to ignore the realities of an anticompetitive course of conduct. *See, e.g.*, *City of Anaheim v. S. Cal. Edison*, 955 F.2d 1373, 1376 (9th Cir. 1992) ("it would not be proper to focus on specific individual acts of an accused monopolist while refusing to consider their overall combined effect").

D. Microsoft's Exclusionary Conduct Contributed Significantly To The Maintenance Of Its Operating System Monopoly

Microsoft contends that it cannot properly be found liable for unlawfully maintaining its operating system monopoly unless its anticompetitive "'behavior has *contributed significantly* to the . . . maintenance of the monopoly.'" MS Br. 115, quoting 3 AREEDA & HOVENKAMP ¶ 650c, at 69 (emphasis added by Microsoft). That treatise makes clear that the difficulties of proving the relationship between particular exclusionary acts and monopoly power justify presuming a sufficient causal relationship from conduct that "reasonably appear[s] capable of making a significant contribution to . . . maintaining monopoly power." 3 AREEDA & HOVENKAMP ¶ 651c, at 78. *See also Multistate Legal Studies, Inc. v. Harcourt Brace Jovanovich Legal & Prof'l Publ'ns, Inc.*, 63 F.3d 1540, 1550 (10th Cir. 1995); *Data Gen.,* 36 F.3d at 1182. That is just what the district court found.

1. The court did not find that Microsoft drove existing competitors from the operating system market. That was not Microsoft's goal. Rather, Microsoft's concern was that "middleware threatened to demolish Microsoft's coveted monopoly power. Alerted to the threat, Microsoft strove

over a period of approximately four years to prevent middleware technologies from fostering the development of enough full-featured, cross-platform applications to erode the applications barrier." CL at 38 (JA 2418). The court additionally found that Microsoft's anticompetitive strategy had the desired effect. "Microsoft's campaign succeeded in preventing – for several years, and perhaps permanently – Navigator and Java from fulfilling their potential to open the market for Intel-compatible PC operating systems to competition on the merits." CL at 39 (JA 2419), citing FF 133, 378 (JA 2281, 2341). "Microsoft placed an oppressive thumb on the scale of competitive fortune, thereby effectively guaranteeing its continued dominance in the relevant market." CL at 44 (JA 2424). It "has retarded, and perhaps altogether extinguished, the process by which . . . two middleware technologies could have facilitated the introduction of competition." FF 411 (JA 2350). The court specifically concluded, on the basis of extensive findings of fact, that "Microsoft achieved this result through exclusionary acts that lacked procompetitive justification." CL at 39 (JA 2419); *see* pp. 18-19, 22-23, 28-29, 33-34, 36, *supra*.

Those findings more than suffice to demonstrate causation in a monopoly maintenance case. Microsoft's campaign to protect the applications barrier to entry "threaten[ed] to defeat or forestall the corrective forces of competition and thereby sustain or extend the defendant's agglomeration of power." *Eastman Kodak*, 504 U.S. at 488 (Scalia, J., dissenting). Such conduct, which materially increased the likelihood that Microsoft's monopoly power would be preserved, establishes the necessary contribution to the maintenance of monopoly. *See* FF 411 (JA 2349). And maintaining this monopoly necessarily generates future harm to consumers, in addition to the harm they already had experienced through the constriction of their choices. Fisher Tr. 1/7/99 am at 62, 1/12/99 am at 28-29 (consumers often benefit in short run from predatory campaign with potential for long-run consumer harm) (JA 14105, 7296-97).

2. Microsoft incorrectly contends that the government would have had to rely on a "speculative chain of causation" to prove that Microsoft's actions contributed significantly to the maintenance of its monopoly. Under Microsoft's view, the government had to show: (1) that Netscape's Navigator would have developed into a platform capable of exposing enough APIs to support full-fledged applications; (2) that sufficient ISVs would have by-passed the Windows APIs to "eliminat[e] the 'applications barrier to entry'"; and (3) that a new market would have developed for the "low-level" operating systems that would displace Windows. MS Br. 116-17. Microsoft is wrong both that the law requires the government to prove those elements and that the government in this case failed to make the requisite showing of causation.

As a threshold matter, Microsoft's position is anomalous in light of its proven anticompetitive campaign to eliminate the middleware threat. If Microsoft believed that middleware posed no competitive threat in the absence of proof that Microsoft's proffered "chain of supposition" would come to pass and that no such proof existed, then Microsoft's anticompetitive campaign would have been nothing but a senseless and very costly effort to ward off a chimerical threat. *See* MS Br. 117. But the evidence is overwhelming that Microsoft itself deemed the middleware threat to be profound. *See* FF 68-78 (JA 2266-68). Microsoft thus effectively asks this Court to excuse its attacks on any threat to its monopoly that, although taken seriously by Microsoft itself, is not sufficiently mature to have already proved itself a success if only left alone. That is not the causation standard of Section 2. Indeed, such a requirement, if adopted, would encourage monopolists to undermine competition by preying on nascent competitive threats, before market experience could demonstrate their seriousness with sufficient certainty.

In any event, Microsoft's proposed causation requirement is unsound at each step. The first link in Microsoft's posited chain of causation would require that Netscape, by itself, expose the APIs that would "allow ISVs to write full-fledged applications." MS Br. 116. As to this, Microsoft observes that "Netscape's Barksdale denied" that Netscape thought Navigator "could supplant Windows as the leading platform for PC applications." *Id.* at 117. But this argument overlooks that Netscape could and did make the Java APIs available by distributing Sun's Java runtime environment with Navigator and thus posed a middleware threat apart from the APIs exposed by Netscape itself. FF 76 (JA 2268). Moreover, even if Barksdale's statement accurately described the beliefs of Netscape executives, it would be immaterial. Netscape did not need to "supplant Windows as the leading platform" in order to facilitate competition in the operating system market. Netscape's Navigator merely needed to provide a sufficiently attractive and widely used platform to erode the applications barrier to entry.

Microsoft's second link would require that many ISVs write applications relying entirely on middleware APIs "without making calls to the underlying operating system." MS Br. 116-17. That assertion ignores the significance of partial reliance on middleware APIs, which reduces the cost of porting applications to other operating systems. As the district court explained:

> Java developers need to port their applications only to the extent that those applications rely directly on the APIs exposed by a particular operating system. The more an application written in Java relies on APIs exposed by the Java class libraries, the less work its developer will need to do to port the application to different operating systems. The easier it is for developers to port their applications to different operating systems, the more applications will be written for operating systems other than Windows. . . . The closer Sun gets to this goal of "write once, run anywhere," the more the applications barrier to entry will erode.

FF 74 (JA 2267). In other words, middleware can reduce the applications barrier to entry even if it does not completely eliminate an ISV's need to make calls to the operating system.

The third link in Microsoft's posited chain is the enticement of new operating system entrants into a market in which "the principal value of an operating system would have been usurped by the middleware layer." MS Br. 117. This argument is unsound. If, as the government proved and the court found, entry barriers would have been lower absent Microsoft's anticompetitive conduct, profit opportunities for new entrants and existing fringe competitors (like Linux) would have been greater absent that conduct. In that event, it follows that: new firms would have greater incentives to enter the market; new and existing firms would be more willing to undertake entrepreneurial and technological innovation in pursuit of the enhanced profit opportunities; or existing rivals (whose development costs had already been sunk) would have been able to compete more aggressively.

In short, Microsoft's proposed causation requirement demands far too much. Contrary to Microsoft's suggestions (MS Br. 117, citing FF 411 (JA 2349)), proof of unlawful monopoly maintenance does not require a showing that, but for the challenged conduct, the monopolist's power would have been crumbling by the date evidence closed at trial. A threat that is not immediate can nevertheless be real. Microsoft feared that Navigator would become "an alternative platform for applications development." FF 72 (JA 2267); *see also* FF 75 (JA 2267). The district court found Microsoft's perceptions of the looming threat to be valid. And it found that the actions that Microsoft took against Navigator and Java "hobbled a form of innovation that had shown the potential to depress the applications barrier to entry sufficiently to enable other firms to compete effectively against Microsoft." FF 411 (JA 2349). Microsoft's conduct "retarded, and perhaps altogether extinguished," the possibility that Navigator and Java would have ignited competition. *Id.* When accomplished by anticompetitive means, that is the essence of unlawful monopoly maintenance.

II. MICROSOFT ATTEMPTED TO MONOPOLIZE THE BROWSER MARKET

The court correctly held that Microsoft unlawfully attempted to monopolize the market for Web browsers in two ways, each of which is a sufficient basis for the court's judgment. First, Microsoft proposed to Netscape in June 1995 that the two companies divide up the market in a way that would have given Microsoft monopoly power in Web browsers. Second, anticompetitive acts engaged in by Microsoft to maintain its operating system monopoly after Netscape refused that offer also constituted attempted monopolization of the Web browser market. CL at 45-46 (JA 2425-26).

The offense of attempted monopolization has three elements: (l) predatory or anticompetitive conduct; (2) a specific intent to monopolize; and (3) a dangerous probability of success in achieving monopoly power. *Spectrum Sports, Inc. v. McQuillan*, 506 US. 447, 456 (1993). The district court found that each element was satisfied by both the June 1995 proposal and the subsequent predatory campaign. In so finding, the court applied correct legal standards and drew proper inferences from the evidence. *See Ass'n for Intercollegiate Athletics for Women v. NCAA*, 735 F.2d 577, 585-86 & n.12 (D.C. Cir. 1984) (conduct, intent, and dangerous probability findings are reviewed for clear error); *see also H.J., Inc. v. Int'l Tel. & Tel. Corp.*, 867 F.2d 1531, 1540-41 (8th Cir. 1989) (these elements are fact questions).

A. Microsoft's Proposal To Netscape In June 1995 Constituted Attempted Monopolization

l. The district court correctly held that Microsoft's June 1995 proposal to Netscape was anticompetitive. CL at 45 (JA 2425). Microsoft's response is to characterize the proposal as a routine instance of "technical discussions" between firms making purely complementary software programs – "an operating system vendor and an ISV" – and to note that some joint ventures are procompetitive. MS Br. 118. That response merely sidesteps the district court's findings that Microsoft's proposal was anticompetitive because it solicited, with sanctions threatened for refusal, the cessation of competition in the Windows-compatible segment of the browser market by Microsoft's only significant rival. FF 79-89 (JA 2268-71).

Microsoft sought to reach an agreement with Netscape that would have eliminated competition between them in browsers. "[W]ith the encouragement and support of Gates, a group of Microsoft executives commenced a campaign in the summer of 1995 to convince Netscape to halt its development of platform-level browsing technologies for Windows 95." FF 80 (JA 2269). To induce Netscape "to forswear any platform ambitions," Microsoft made various offers: to work with Netscape to develop "value-added" software to run on top of Microsoft's platform and to cede to Netscape the development of Web browsers for the Mac OS, UNIX, and Microsoft's pre-Windows 95 operating systems (or, alternatively, to license Netscape's underlying code for a Microsoft-branded browser to run on those platforms). FF 82-83 (JA 2269). In exchange, Netscape would have to limit its Windows 95 version of Navigator to a "user-interface shell." FF 85 (JA 2270).

Microsoft offers no procompetitive business justification for the proposal that its only significant browser competitor stop competing. If accepted, it would have removed Netscape as Microsoft's only significant rival over the pace and direction of innovation in platform-level browsers for the dominant operating system, Windows. *See United States v. Am. Airlines, Inc.*, 743 F.2d 1114, 1118-19 (5th Cir. 1984); *see also Palmer v. BRG of Ga., Inc.*, 498 U.S. 46, 49-50 (1990) (per curiam) (agreement not to compete is anticompetitive on its face).

2. The district court also properly concluded that Microsoft's proposal showed a specific intent to monopolize the browser market; indeed, Microsoft does not even dispute that. "Specific intent" is variously defined as intent "to achieve monopoly power, to accomplish forbidden monopoly, to acquire power to control price, or to exclude competition." 3A PHILIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 805a, at 322-23 (1996) (citing cases). Intent "to control" competition is enough. *Dial A Car, Inc. v. Transp., Inc.*, 82 F.3d 484, 486 (D.C. Cir. 1996) (approving findings requiring "intent to destroy or control competition"); *see also A.H. Cox & Co. v. Star Mach. Co.*, 653 F.2d 1302, 1308 (9th Cir. 1981) (Kennedy, J.) ("intent to control prices or exclude competition"). The required intent may be established directly or by inference from

defendant's conduct. *Spectrum Sports*, 506 U.S. at 459; *Conoco Inc. v. Inman Oil Co.*, 774 F.2d 895, 905 (8th Cir. 1985). And parties are presumed to intend the natural consequences of their actions. CL at 45 (JA 2425), quoting 3A AREEDA & HOVENKAMP ¶ 805b, at 324.

The district court held that Microsoft demonstrated the requisite specific intent with its proposal: "Microsoft's effort to convince Netscape to stop developing platform-level browsing software for the 32-bit versions of Windows was made with full knowledge that Netscape's acquiescence in this market allocation scheme would, without more, have left Internet Explorer with such a large share of browser usage as to endow Microsoft with de facto monopoly power in the browser market." CL at 45 (JA 2425), citing FF 79-89 (JA 2268-71). Indeed, Microsoft's proposal is, by its terms, a direct statement of intent to control the browser platform for Windows 95, i.e., to exercise power over that product's quality in a critical dimension of its value, and is therefore sufficient to establish the requisite specific intent to monopolize. *See, e.g., Gen. Indus. Corp. v. Hartz Mountain Corp.*, 810 F.2d 795, 803 (8th Cir. 1987); *William Inglis & Sons Baking Co. v. ITT Cont'l Baking Co.*, 668 F.2d 1014, 1028 (9th Cir. 1982); *see generally* 3A AREEDA & HOVENKAMP ¶ 806b, at 328-30.

3. The district court also correctly held that the June 1995 proposal created a dangerous probability that Microsoft would succeed in monopolizing the browser market. CL at 45-46 (JA 2425-26). The agreement that Microsoft proposed would have deprived Netscape (the only firm with a significant share of the browser market) of the ability to compete on the basis of innovation in platform-level browser technologies for Windows 95, leaving Netscape only a "very narrow" space "between the user and Microsoft's platform domain" in which to innovate. FF 85 (JA 2270). Microsoft would have controlled the fundamental technology for Web browsers running on Windows 95. FF 80-81, 88 (JA 2269, 2271). The agreement would thus have given Microsoft control over the pace and direction of browser technology and severely limited Netscape's ability to compete with

it through innovation. Indeed, the proposal might have led to Netscape's complete elimination as an independent competitor in the browser market, leaving Microsoft as the only significant source of Web browsers for the dominant Windows 95 operating system and perhaps for other systems as well. FF 88 (JA 2271). "Netscape's assent to Microsoft's market division proposal would have, instanter, resulted in Microsoft's attainment of monopoly power in a second market." CL at 46 (JA 2426).

These findings – that the direct result of the proposed agreement would have been the very control over the market that constitutes monopoly power – are enough to support the dangerous probability finding. CL at 46, citing *American Airlines,* 743 F.2d at 1118-19 (JA 2426); *accord* 3A AREEDA & HOVENKAMP ¶ 806b, at 328-30. *American Airlines* fully supports the district court's conclusion. In that case, American Airlines proposed a price increase with Braniff, its only rival, at Dallas-Fort Worth Airport. As the Fifth Circuit concluded, had Braniff accepted American's proposal, the two airlines by collaborating "would have monopolized the market." *American Airlines*, 743 F.2d at 1118. In the same manner, had Netscape accepted Microsoft's offer in June 1995, it would have collaborated with Microsoft and acceded to Microsoft's monopoly control over the development of browsers compatible with Windows.

Microsoft's arguments to the contrary are unpersuasive. First, Microsoft contends (MS Br. 121-22) that the district court "simply accepted plaintiffs' unproven allegation of a 'browser' market," but that market is amply supported by the court's findings of fact. As the court found, "there is a consensus in the software industry as to the functionalities that a Web browser offers a user": a means "to select, retrieve, and perceive resources on the Web. There is also a consensus in the software industry that these functionalities are distinct from the set of functionalities provided by an operating system." FF 150 (JA 2286); Warren-Boulton ¶ 68, Barksdale ¶ 90, Farber ¶ 11 (JA 3193, 2906-07, 13882-83); Tr. 1/6/99 am at 5 (JA 7191); *see also* FF 154 (JA 2286). "Consumer demand for software functionality that facilitates Web transactions, and the response by browser vendors to that demand, creates a market for Web browsing functionality." FF 201 (JA 2296). There are no other practical substitutes for browsers from a user's standpoint, and they thus constitute a distinct market, even if browsers are not now licensed at a positive price. *Id.*; Fisher ¶ 80, Barksdale ¶ 90 (JA 13901-04, 2906-07). Indeed, Microsoft and others measure browser market share and evaluate the merits of browser products by comparing them to other browsers, not to a wider array of applications or other software. Barksdale ¶¶ 90-91 (JA 2906-08); GX 673 at MS6 6005881, 334 at MS98 0104679, GX 713, 714 (Microsoft documents reflecting tracking of, and attempts to increase, "browser share") (JA 14762, 14564, 14798, 14799). Rather than attack the court's findings as clearly erroneous, Microsoft merely cites the testimony of its own witness and its proposed findings (MS Br. 121-22), which the district court reasonably rejected.

Second, Microsoft criticizes the court's finding that almost all of Netscape's share would have devolved on Microsoft (MS Br. 122-23, quoting CL at 45-46 (JA 2425-26)), but Microsoft would have monopolized the market simply by controlling technology and innovation. Microsoft asserts that new entrants like "Apple, BookLink, IBM or Spyglass" would have deprived Microsoft of control once Netscape had receded by agreement. MS Br. 123. In light of Microsoft's imminent release of IE to be distributed with every copy of Windows 95 and its confessed incentive to invest in and promote its own browser as protection for its Windows franchise, however, the court reasonably found that "Microsoft quickly would have gained such control over the extensions and standards that network-centric applications (including Web sites) employ as to make it all but impossible for any future browser rival to lure appreciable developer interest away from Microsoft's platform." FF 89 (JA 2271). That finding also suffices to rebut Microsoft's assertion that the government "did not allege, and the district court did not find, that there are *any* barriers to entry into the 'browser' market." MS Br. 123. *See also* FF 144 (Microsoft relied on studies showing consumer reluctance to switch browsers) (JA 2284-85); Fisher ¶ 81 (barriers to entry, including network effects, "prevent companies that might be able to produce a browser from entering the market") (JA 13904).

Finally, Microsoft argues that there was no dangerous probability of success because the Microsoft officials who presented the proposal to Netscape were not "senior executives capable of binding the company" and that Microsoft's senior management ultimately dropped the effort. MS Br. 123. But the findings make clear that the Microsoft employees who attended the meetings with Netscape CEO Barksdale acted with the knowledge and approval of senior management. Microsoft CEO Gates gave his "encouragement and support" to the campaign to convince Netscape not to offer competing platform-level browsing technologies. FF 80 (JA 2269); GX 22 (JA 14332). Microsoft's senior executives were well aware of the planned agenda, and received an account of the meeting just hours after it ended.[73] Gates received reports from Dan Rosen and Thomas Reardon about the June 21 meeting and made his own assessment that Netscape would not comply with Microsoft's demands; Rosen's superiors then instructed him to drop the effort to reach agreement. FF 87 (JA 2270); GX 535-537, 540 (JA 14720, 14724, 14729, 14734). On that record, Gates's decisions to let subordinates present the proposal and to drop it after concluding that Netscape would not agree are legally immaterial. There is no reason to doubt that the proposal would have been implemented if Netscape had agreed. *See American Airlines*, 743 F.2d at 1118-19.

B. Microsoft's Pattern Of Conduct Following Netscape's Failure To Accept Its Proposal Constituted Attempted Monopolization

1. The evidence of Microsoft's predatory conduct satisfies the anticompetitive conduct element of attempted monopolization. CL at 45 (JA 2425). In so concluding, the court relied on Microsoft's

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[73] GX 27, 536, 540 at MS98 0010341, 535 at MS98 0010220 (JA 14340, 14724, 14735, 14720); Tr. 1/13/99 at 571, 594 (Jones Dep.) (JA 14154, 14158); Rosen ¶ 1 (JA 4020).

"well-documented efforts to overwhelm Navigator's browser usage share with a proliferation of Internet Explorer browsers inextricably attached to Windows," upon which the court had relied to find Microsoft liable for allegedly maintaining its OS monopoly. *Id.* Microsoft did not confine itself to competing on the merits with Netscape because Microsoft executives knew "that simply developing its own attractive browser product, pricing it at zero, and promoting it vigorously would not divert enough browser usage from Navigator to neutralize it as a platform." FF 143 (JA 2284); *accord* FF 134 (quoting Gates), FF 166 (quoting Allchin) (JA 2281, 2289).

2. Microsoft's efforts to exile Navigator from the most efficient channels of distribution also evidence the requisite specific intent to monopolize. Microsoft argues (MS Br. 120) that the district court found that it intended only to prevent Navigator from becoming "the standard software for browsing the Web" but did not find an intent to monopolize the browser market. To the contrary, the court expressly found that Microsoft "set out to maximize Internet Explorer's share of browser usage at Navigator's expense." FF 133 (JA 2281); *see also* FF 378 (JA 2341); CL at 45 (JA 2425). Moreover, specific intent to monopolize does not require an intent to destroy rivals completely (*see* MS Br. 124); it requires only the intent to eliminate competition by anticompetitive means and thereby create monopoly power. *See, e.g.*, *Times-Picayune Publ'g Co. v. United States*, 345 U.S. 594, 626 (1953) ("intent to destroy competition or build monopoly").

Microsoft is incorrect (MS Br. 120-21) that the court erroneously applied a negligence standard for specific intent. Rather, the court's conclusion that Microsoft officials "knew, or should have known" that their continued efforts to defeat Netscape would cause a dangerous probability that Microsoft would monopolize the browser market properly applied *Spectrum Sports*. *See* 506 U.S. at 459 ("'predatory' tactics . . . may be sufficient to prove the necessary intent to monopolize, which is something more than an intent to compete vigorously"). Although Microsoft might have chosen lesser means to protect its OS monopoly, it consciously and intentionally chose to engage in conduct that constituted an attempted monopolization of the browser market. CL at 45 (JA 2425). An intent to acquire monopoly power over browsers is not negated by the fact that the chosen path was also a means of maintaining the Windows monopoly.

Microsoft knew that "Navigator's slow demise would leave a competitive vacuum for only Internet Explorer to fill." CL at 45 (JA 2425). Microsoft internal documents show that it intended to enlarge IE's share to far more than 50%, *see* GX 60 ("We should be after . . . 75% by the end of FY99") (JA 14397-98), and Microsoft fully expected to dominate the Web browser market. GX 173 (projecting 88% for new Internet connections for FY99) (JA 14451); *see also* GX 42 (Maritz), 279 and 20 (Gates) (JA 14365, 14524, 9872). Indeed, Microsoft defined the browser war as a contest over who would "win" and fought to ensure that IE prevailed over Navigator. FF 166 (JA 2289). And Microsoft concededly intended to prevent Netscape from becoming a standard, so that Microsoft would control platform-creating features of browsers, itself a form of monopoly power. *See, e.g.*, FF 89 (JA 2271).

3. The court was correct that Microsoft's course of predatory conduct created a dangerous probability of Microsoft attaining monopoly power in Web browsers. CL at 46 (JA 2426). Microsoft says (MS Br. 123) that "shares of 50% or less are insufficient to establish a dangerous probability of monopolization," but the district court found that Microsoft's share of incremental browser usage was already above 60% in 1998 and that the trend of IE increasing market share at Netscape's expense "continues unabated." CL at 46 (JA 2426); FF 372 (JA 2340). *See M & M Med. Supplies & Serv., Inc. v. Pleasant Valley Hosp., Inc.*, 981 F.2d 160, 168 (4th Cir. 1992) (greater than 50% share shows dangerous probability of success); *see also Multistate Legal Studies, Inc. v. Harcourt Brace Jovanovich Legal & Prof'l Publ'ns, Inc.*, 63 F.3d 1540, 1554-55 (10th Cir. 1995) (significant

rise in market share during period of predation from insignificant share at outset can support finding of dangerous probability); 3A AREEDA & HOVENKAMP ¶ 807d1, at 354-55 (collecting cases), ¶ 807e2, at 359 & n.70. Microsoft quotes out of context the district court's finding that "Navigator's installed base will continue to grow" (MS Br. 124, quoting FF 378 (JA 2341)) and ignores the court's further conclusion that "[t]he population of browser users is expanding so quickly that Navigator's installed base has grown *even as its usage share has fallen*." FF 378 (emphasis added) (JA 2341). "Navigator's installed base may continue to grow, but Internet Explorer's installed base is now larger and growing faster." *Id.*

Microsoft contends that there can be no dangerous probability because there are no barriers to entry into the browser market. MS Br. 123-24. That premise, however, is belied by the unique incentive Microsoft has to protect its operating system monopoly by preventing loss of control of the browser market and by Microsoft's own recognition of the "positive feedback" effects of its acquiring a dominant browser share. GX 42, 279 (JA 14365, 14524); *see* pp. 92-93, *supra*.

Finally, AOL's purchase of Netscape while the case was in trial (MS Br. 123-25) does not negate the district court's finding of dangerous probability, which a court determines as of the time of the conduct. Subsequent events that might lessen the danger, conceivable in almost any market, are no more a defense when they occur during trial. *Taylor Publ'g Co. v. Jostens, Inc.*, 216 F.3d 465, 475 (5th Cir. 2000), quoting *American Airlines, supra* ("we do not rely on hindsight but examine the probability of success at the time the acts occur"); *General Indus.*, 810 F.2d at 807. The evidence in the record provides no basis to conclude that AOL would substitute Navigator for IE in the foreseeable future,[74] and Microsoft obviously cannot rely on post-trial developments. Microsoft's

[74] FF 299-302, 380-82 (JA 2321-23, 2342); Tr. 6/22/99 am at 6-8, 16-19 (JA 14316-18, 14319-22); GX 2240 (JA 14978); DX 2445 (sealed), 2087, 2518 (sealed), 2810 (JA 15008, 11767, 16774, 15025).

assertion that, after the trial, "AOL announced its intent to replace IE with Navigator in AOL's proprietary client software" (MS Br. 125) thus counts for nothing, both because it is legally immaterial and because it has, in fact, come to nothing. Indeed, reflecting the continuing increase in IE's market share, Microsoft has since then declared that "[t]he browser wars are over." RX 20 (April 19, 2000 Microsoft job announcement) (JA 14990); *see also* Henderson Decl. ¶ 10 (JA 13859-60); RX 23 (as of April 2000, IE share was at 69%, Navigator down to 19%) (JA 14991).

III. MICROSOFT VIOLATED SECTION 1 OF THE SHERMAN ACT BY TYING INTERNET EXPLORER TO WINDOWS

The district court correctly ruled that Microsoft's efforts to prevent OEMs and consumers from obtaining a "browserless" version of Windows resulted in an unlawful tie of Windows and IE under Section 1. CL at 47-51 (JA 2427-31). The conduct at issue, which provided part of the basis for the court's finding that Microsoft had violated Section 2 by unlawfully maintaining its operating system monopoly, also provides a basis for Section 1 tying liability.

"A tying arrangement is 'an agreement by a party to sell one product but only on the condition that the buyer also purchases a different (or tied) product.'" *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 461 (1992), quoting *N. Pac. R. Co. v. United States*, 356 U.S. 1, 5-6 (1958). Section 1 prohibits such arrangements if: (1) there are two separate products, (2) the defendant has market power in the tying product, (3) there is an agreement by a party to sell one of the products only on the condition that the buyer also buy a different product (or refrain from acquiring the other product from a competitor), and (4) the arrangement affects a "substantial volume of interstate commerce" in the tied product. *Eastman Kodak*, 504 U.S. at 461-62; *see Foster v. Md. State Sav. & Loan Ass'n*, 590 F.2d 928, 931 (D.C. Cir. 1978); *Multistate Legal Studies, Inc. v. Harcourt Brace Jovanovich Legal & Prof'l Publ'ns, Inc.*, 63 F.3d 1540, 1546 (10th Cir. 1995). The district court found that Microsoft's tying of Windows and IE satisfied all four elements of the Supreme Court's test. CL 47-51 (JA 2427-31). Microsoft disputes only the first element of that test, the "separate products" requirement.

The court below concluded that Microsoft Windows and IE were separate products under the Supreme Court's decision in *Jefferson Parish Hospital District No. 2 v. Hyde*, 466 U.S. 2 (1984). CL at 50-51 (JA 2430-31). The court recognized, however, that a panel of this Court had employed a seemingly different test for determining whether products are technologically "integrated" in a prior consent decree proceeding involving Microsoft. *See United States v. Microsoft Corp.*, 147 F.3d 935 (D.C. Cir. 1998) (*Microsoft II*). The district court acknowledged that the *Jefferson Parish* approach that it followed "is arguably at variance" with the analytical approach of the *Microsoft II* panel, but the court also noted that *Microsoft II* interpreted a consent decree, rather than Section 1 of the Sherman Act, and is "thus not formally binding" in this case. CL at 47-48 (JA 2427-28). The district court concluded that it was "bound to follow [the Supreme Court's] guidance and not at liberty to extrapolate a new rule governing the tying of software products." *Id.* at 51 (JA 2431).

Microsoft contends (MS Br. 69-70, 70-71) that the district court erred by relying on the *Jefferson Parish* test, rather than the "integrated products" rationale set out in *Microsoft II,* in determining whether Windows and IE are a "single product." Microsoft is mistaken. The district court followed the proper course in applying the conventional *Jefferson Parish* test and correctly concluded that Windows and IE are separate products. Furthermore, the same result would obtain if the *Microsoft II* "integrated products" rationale were applied to the court's factual findings in this case. Finally, Microsoft is mistaken in its additional and separate contention that the tie "did not foreclose competition in the 'browser' market." MS Br. 69, 79-83.

A. Microsoft Is Liable Under The Supreme Court's Tying Decisions

1. For purposes of tying analysis, the Supreme Court has consistently ruled "that the answer to the question whether one or two products is involved turns not on the functional relation between them, but rather on the character of the demand for the two items." *Jefferson Parish*, 466 U.S. at 19. The Court has focused on whether there is separate demand for the two items because the prohibition on tying is concerned with foreclosure of competition on the merits in the tied product, which can occur only if there can be such competition separate from competition in the tying product. *Id.* at 12-14, 19-22. The Supreme Court has accordingly condemned tying arrangements that link distinct markets that are "distinguishable in the eyes of buyers." *Id.* at 19, citing *Times-Picayune Publ'g Co. v. United States*, 345 U.S. 594 (1953).

The *Jefferson Parish* test inquires whether "there is a sufficient demand for the purchase of [the tied product] separate from [the tying product] to identify a distinct product market in which it is efficient to offer" the two products "separately." 466 U.S. at 21-22; *accord Eastman Kodak*, 504 U.S. at 462 ("sufficient consumer demand so that it is efficient for a firm to provide" them separately). This test requires the court to ask whether a supplier in a competitive market would provide the products separately, thus distinguishing situations in which the refusal to supply them separately is efficient from situations in which the refusal might be profitable only because of its adverse effect on competition. *See, e.g.*, *Eastman Kodak*, 504 U.S. at 462-63; *Jefferson Parish*, 466 U.S. at 21-22.

2. Applying *Jefferson Parish*, the court held that Windows and IE are separate products. CL at 48-49, 50-51 (JA 2428-31). "[T]he commercial reality is that consumers today perceive operating systems and browsers as separate 'products' for which there is separate demand." *Id.* at 49 (JA 2429), citing FF 149-54 (JA 2286). "This is true notwithstanding the fact that the software code

supplying their discrete functionalities can be commingled in virtually infinite combinations, rendering each indistinguishable from the whole in terms of files of code or other taxonomy." *Id.*, citing FF 149-50, 162-63, 187-91 (JA 2286, 2288, 2293-94). In comparing "the 'character of demand' for the two products, as opposed to their 'functional relation,'" *Jefferson Parish*, 466 U.S. at 19, the court found that:

> Web browsers and operating systems are "distinguishable in the eyes of buyers." *Id.*; Findings ¶¶ 149-54. Consumers often base their choice of which browser should reside on their operating system on their individual demand for the specific functionalities or characteristics of a particular browser, separate and apart from the functionalities afforded by the operating system itself. *Id.* ¶¶ 149-51. Moreover, the behavior of other, lesser software vendors confirms that it is certainly efficient to provide an operating system and browser separately, or at least in separable form. *Id.* ¶ 153. Microsoft is the only firm to refuse to license its operating system without a browser. *Id.*

CL at 50-51 (JA 2430-31); *see* p. 23 n.40 *supra*. The court specifically concluded that "Microsoft's decision to offer only the bundled – 'integrated' – version of Windows and Internet Explorer derived not from technical necessity or business efficiencies; rather, it was the result of *a deliberate and purposeful choice to quell incipient competition before it reached truly minatory proportions*." *Id.* at 51 (JA 2431) (emphasis added).

3. Microsoft does not contend that the district court committed any error in applying the *Jefferson Parish* test to the facts of this case. Rather, Microsoft argues that the court should have applied the "integrated products" standard set out in *Microsoft II*. MS Br. 70-71. The court, however, was fully justified in relying on the *Jefferson Parish* test in analyzing the tying claim.

First, the *Jefferson Parish* test reflects the Supreme Court's authoritative guidance on how to apply Section 1 to tying arrangements. The Supreme Court spoke clearly in *Jefferson Parish*, and the district court "was bound to follow its guidance," CL at 51 (JA 2431), unless and until that Court concludes that a different standard is more appropriate in particular circumstances. *See, e.g.*, *Rodriguez de Quijas v. Shearson/American Express, Inc.*, 490 U.S. 477, 484 (1989). This Court, sitting *en banc*, is also obligated to follow *Jefferson Parish*, but it is not obligated to follow *Microsoft II*. *See, e.g.*, *LaShawn v. Barry*, 87 F.3d 1389, 1395 (D.C. Cir. 1996) (en banc).

Second, the *Microsoft II* decision did not provide direct guidance on how to apply Section 1 to tying arrangements. As noted above, that case was an appeal from a preliminary injunction in a contempt case that involved construction of a consent decree, and the panel's task was to "discern the bargain that the parties struck." 147 F.3d at 946. The panel stated that "[t]he antitrust question is of course distinct" and "[t]he parties agree that the consent decree does not bar a challenge under the Sherman Act." *Id.* at 950 n.14. Thus, even if Windows and IE were one product under the consent decree's integration test, the *Microsoft II* majority recognized that the question whether they are also one product for purposes of a Section 1 tying violation would remain to be determined in an antitrust case. *See* Lessig Br. 10-12 (concluding that there is "no reason to read an opinion interpreting a consent decree as interpreting the contours of antitrust law") (JA 2374-76).

Third, the *Microsoft II* decision would have only limited application here, in any event, in light of the important differences between the products at issue in *Microsoft II* and the products at issue in this case. The dispute in *Microsoft II* centered on whether Microsoft's bundling of particular combinations of Windows and IE – specifically, the combinations of Windows 95 with IE3 and IE4 – were "integrated products" for purposes of the consent decree. *See* 147 F.3d at 940. The test the Court articulated rested on the existence of some "physical or technological interlinkage." *See id.* at 949, quoting 10 PHILLIP E. AREEDA ET AL., ANTITRUST LAW ¶ 1746b, at 227 (1996).

Importantly, however, this case also involves Microsoft's tying of IE1 and IE2 to Windows, and neither of those products involved such linkage. Indeed, the court below found that IE1 "was a separable, executable program supplied on a separate disk." FF 175 (JA 2291). Microsoft has never argued that IE1 or IE2 was any more "integrated" with Windows than is any other Microsoft application, such as Word, Excel, or Flight Simulator – or, for that matter, any non-Microsoft applications, such as Corel's WordPerfect 8, designed to run on the Windows operating system.

Microsoft urges this Court to follow the *Microsoft II* analysis, but ignores the district court's conclusion that Microsoft had unlawfully tied those early versions of IE to Windows. *See* CL at 50 (JA 2430); FF 158-60 (JA 2287-88). That conclusion is important because this case involves a single tying claim. Whatever the implications of *Microsoft II* for the versions of Windows and IE that are physically linked, it provides no basis to reverse the district court's determination that Microsoft unlawfully tied IE1 and IE2.

B. Microsoft Is Liable Under The *Microsoft II* Rationale For Distinguishing Integrated Products

The district court's holding is correct even under *Microsoft II*'s analytical framework. Microsoft's reliance on *Microsoft II*'s "integrated product" test overlooks two important considerations: (1) the court condemned tying and not integrated design, and (2) the principles articulated in *Microsoft II* must be applied in light of the facts the court found in this case.

1. The District Court Condemned Tying, Not Integrated Design

Microsoft characterizes the court's decision as imposing Section 1 liability on the basis of the company's "integrated design of Windows," i.e., the inclusion in Windows of "'system services not directly related to Web browsing'" that enhance "'the functionality of a wide variety of applications.'" MS Br. 74, quoting *Microsoft II*, 147 F.3d at 950-51. That characterization is inaccurate. The district court did not condemn Microsoft for innovation in operating systems or Web browsers, for integrated design, or for providing any other benefit to computer users. *See* pp. 65-68, *supra*. The antitrust wrong was not that Microsoft added capabilities to Windows, but rather that its actions "forced Microsoft's customers and consumers to take Internet Explorer as a condition of obtaining Windows." CL at 47 (JA 2427).

The district court drew a sharp contrast between the consumer benefits of "Microsoft's provision of Web browsing functionality with its Windows operating system at no additional charge" and the *lack* of consumer benefits attributable to "Microsoft's refusal to offer a version of Windows 95 or Windows 98 without Internet Explorer." FF 186 (JA 2293). The court correctly discerned that there was no reason why Microsoft could not provide a "browserless" version of Windows. FF 187 (JA 2293). It found Microsoft's contention that removing the browser would cripple Windows' non-browser functionality to be contrary to the evidence. FF 181-83 (JA 2292-93). Rather, as the court determined, Microsoft could provide a version of Windows without IE, which would give users all of the non-browsing features that Windows with IE provides without including browsing functionality, by simply removing the user access to browser functionality while retaining whatever code is necessary to enhance the functionality of other applications. *See* FF 165, 184 (JA 2288, 2293). Compare *Microsoft II*, 147 F.3d at 951. Indeed, the district court found (FF 177-88 (JA 2291-94); pp. 22-23, *supra*) that Microsoft could have distributed "a browserless Windows" that nevertheless provided each of the specific benefits Microsoft's quotation from this Court's earlier discussion of Windows 95 ascribes to the "integrated design," as well as the other benefits Microsoft claims for it, *see* MS Br. 74-75, quoting *Microsoft II*, 147 F.3d at 950-51.

Microsoft focuses on computer code in determining whether Windows and IE are separate products. MS Br. 77-79. The district court found, to the contrary, that consumers approach software products on the basis of functionalities provided to the user, and not of the specific design or implementation of software code. FF 149 (JA 2286). A Web browser "provides the ability for the end user to select, retrieve, and perceive resources on the Web" and is thus distinguished from an operating system, which provides a different set of functionalities. FF 150 (JA 2286). But the "software code supplying their discrete functionalities can be commingled in virtually infinite combinations, rendering each indistinguishable from the whole in terms of files of code or any other taxonomy." CL at 49 (JA 2429); *see also* FF 162-63 (JA 2288). Indeed, IE, like many other applications, shares code with and updates software files in Windows when it is installed. *See, e.g.*, Felten ¶ 61 (JA 3026); Weadock Tr. 11/17/98 am at 25-26 (JA 5973-74).

This important distinction – between functionality and code – answers Microsoft's complaint that the government has not identified the "software code" that constitutes the "'tied' product." *See* MS Br. 79. A "browserless Windows" is Windows with no accessible browsing functionality, regardless of how that is accomplished. Adding or removing the means of user access to a given function, by whatever means, amounts to adding or removing the software product. FF 165 (JA 2289); *see also* FF 183-85 (JA 2292-93); Felten Tr. 12/14/98 am at 33 (JA 6926); Weadock ¶¶ 18-19 (JA 13966-69). Microsoft itself claimed that "IE Uninstalls Easily" using the Add/Remove feature provided in Windows 95, even though most of the IE code remains afterward. *See* FF 165 (JA 2288); GX 352 (JA 14581).[75] Similarly, as Professor Lessig has pointed out in a brief Microsoft cites to this Court (MS Br. 73), operating systems ordinarily "erase" or "delete" files by removing them "from the drive's file listing," leaving their content in place but hidden "from the ordinary ways a user gets access to a file"; the "ordinary meaning of 'deleting' or 'erasing' a file therefore is simply to make it inaccessible." Lessig Br. 21 (JA 2385).

[75] *Accord* GX 164, 165, 166, 170, 172 (JA 14436-50); Tr. 1/13/99 at 395-96 (Cole Dep.), Allchin Tr. 2/2/99 pm at 4 (JA 14142-43, 8010); *see also* Tr. 12/16/98 am at 9 (Kies Dep.) (JA 14094).

2. Windows and IE Would Be Considered Separate Products If *Microsoft II* Were Applied To The Facts Of This Case

Applied to the facts of this case, *Microsoft II*'s "integration" test leads to the same conclusion that obtains under *Jefferson Parish*: Windows and IE are separate products.

a. Microsoft does not dispute that the *Jefferson Parish* test and the *Microsoft II* test would lead to the same result in the case of products that are not physically or technologically interlinked, such as the tie of IE1 and IE2 to Windows. Furthermore, even in the class of physically or technologically interlinked items, those items that *Jefferson Parish* would treat as "one product" would be "one product" under the *Microsoft II* test. The possibility of different results under the two tests, therefore, is limited to those physically or technologically linked items that *Jefferson Parish* would treat as separate products but *Microsoft II* would not. But even that difference is limited because the *Jefferson Parish* test itself takes into account technological (and other) benefits of joint provision of two items. That test looks, not just to the existence of separate demand, but also to the efficiency of separately providing the two products. *See* 466 U.S. at 21-22. Accordingly, the *Jefferson Parish* test, like the *Microsoft II* test, would take account of technological benefits that would be lost by separate provision in determining whether the item in question is one product or two. *See Microsoft II*, 147 F.3d at 949 (technological commingling of two items treated as one product only if the "integrated design offers benefits when compared to a purchaser's combination of corresponding stand-alone functionalities").

The most striking difference between *Jefferson Parish* and *Microsoft II* is that *Microsoft II* can be read to suggest that a defendant can establish that two products have been "integrated" merely by "ascribing facially plausible benefits to its integrated design." *Id.* at 950; *see* MS Br. 71. We do not understand the *Microsoft II* majority to mean, however, that courts should ignore evidence, presented in the course of a Section 1 trial, that demonstrates the absence of *actual* benefits that would "justify a product's bridging of two formerly separate markets." 147 F.3d at 959 (Wald, J., concurring in part and dissenting in part). *Microsoft II* was decided in the context of a preliminary injunction and on the basis of a "limited record" that provided only partial information about Windows 95 and later versions of IE; Windows 98 was not before the Court. *See* 147 F.3d at 950 & n.15. The panel was properly reluctant to decide definitively the benefits of integration in that context. But it expressly contemplated assessment of actual evidence: It left the "ultimate sorting out of any factual disputes" to the lower court, *id.* at 951 n.15, and recognized that its conclusion about integration might require "reexamination on a more complete record," *id.* at 952.

The *Microsoft II* test thus departs from *Jefferson Parish* only insofar as it focuses the "separate product" inquiry on whether there is some "technological value to integration" that makes it "better in some respect" than leaving the purchaser to "combine the separate products on his own." *Id.* at 949. "The question is not whether the integration is a net plus," *id.* at 950, or whether, in *Jefferson Parish* terms, it is "efficient"; the question is only whether there is some "technological value to integration." Adding different functionalities into a bundle can always be said to have some value, such as reduced distribution or transaction costs. But importantly, *Microsoft II* made clear that it is not enough merely to "bolt" two products together. *Id.* at 949. The test requires that the integrated design add "some technological value," compared to a purchaser's combination of separate products. *Id*. *See generally* Hollaar Br. 7-12 (discussing technological and non-technological benefits of combining computer programs).

b. Windows and IE are separate products under this integration test. Microsoft has bound together Windows 98 and IE in a way that gives the user no option but to take IE, yet provides no technological benefits. CL at 51 (JA 2431). The court specifically found that "there is no technical justification for Microsoft's refusal to meet consumer demand for a browserless version of Windows 98." FF 177 (JA 2291). Microsoft could offer all the non-browsing features of Windows 98 without including web browsing functionality. *Id.*; *see* Felten ¶ 66 (JA 3027-28); Felten Tr. 6/10/99 am at 9 (JA 14307). "No consumer benefit can be ascribed . . . to Microsoft's refusal to offer a version of . . . Windows 98 without Internet Explorer." FF 186 (JA 2293). Because Microsoft's binding of IE to Windows served only an anticompetitive purpose, *see* FF 155-74 (JA 2287-91), Microsoft did "nothing more than to metaphorically 'bolt' two products together." *Microsoft II*, 147 F.3d at 949. That bolting provides no significant benefits compared to making available a version of Windows 98 with the browser uninstalled in addition to the version with IE, or providing the browser separately to be combined with Windows by PC manufacturers or end users. FF 177, 186, 191 (JA 2291-94); Felten ¶ 66 (JA 3027-28); Felten Tr. 6/10/99 am at 9, Allchin Tr. 2/1/99 pm at 37, 39, 41, 45 (JA 14307, 7962, 7964, 7966, 7970).

The illegality of the tie of Windows 95 and IE follows *a fortiori* from the illegality of the Windows 98-IE tie. In Windows 95, Microsoft actually provided, and permitted consumers to use, an Add/Remove function that effectively removed IE. FF 165 (JA 2288-89). Microsoft's action indicates that there was no technological benefit to requiring customers to take IE along with Windows, for otherwise Microsoft would not have made it easy for users to remove it. Moreover, to the extent that IE3 commingled code with Windows 95, the "primary motivation" "was to ensure that the deletion of any file containing browsing-specific routines would also delete vital operating system routines and thus cripple Windows 95." FF 164 (JA 2288); *see Microsoft II*, 147 F.3d at 949 n.12 ("commingling of code" alone is not sufficient evidence of "true integration"; "[c]ommingling for an anticompetitive purpose (or for no purpose at all) is what we refer to as 'bolting'"). No technological benefits of this commingling appear in the record, and Microsoft identifies none in its brief.

C. Microsoft's Tying Had Significant Competitive Consequences

Microsoft argues that its tying, whatever the label, should be found lawful because its competitive consequences "are not those to which the tying prohibition is addressed." MS Br. 80. But the central purpose of tying law is to protect competition in the tied product by preventing the forced taking of the defendant's product so as to curtail the opportunities of independent sellers of the tied product. *See Jefferson Parish*, 466 U.S. at 12, 21. Here, as the district court summarized, Microsoft's unlawful tying "caused Navigator's usage share to drop substantially from 1995 to 1998," and "Microsoft's refusal to offer Internet Explorer separately from Windows" achieved "foreclosure." CL at 49 (JA 2429). Microsoft's attempts to minimize those competitive effects are insubstantial.

Microsoft points out that it did not charge OEMs a separately stated price for IE. MS Br. 80. But that fact cannot be determinative of whether IE and Windows are tied, for otherwise a seller rigidly insisting on selling the tied and tying products together could often circumvent tying law simply by charging a single price for the bundle, even though the insistence would be "actively harmful" to the aims of tying law. *Microsoft II*, 147 F.3d at 948. Thus, tying law does not permit a seller to transform two products into one merely by combining line items on an invoice. *See Multistate Legal Studies*, 63 F.3d at 1548 ("Where the price of a bundled product reflects any of the cost of the tied product, customers are purchasing the tied product, even if it is touted as being free"); 3A AREEDA & HOVENKAMP ¶ 760b6, at 51 ("the tie may be . . . more subtle, as when a machine is sold or leased at a price that covers 'free' servicing"). *See also* CL at 50 (JA 2430).

Microsoft observes that Windows is not designed to be "incompatible" with Navigator. MS Br. 81. That assertion, even if true, is irrelevant. There is no requirement in tying law that purchasers in a tying arrangement be unable to use competitors' versions of the tied product. Microsoft may have utilized a subtler strategy than technological sabotage to force customers to take IE with Windows, but that does not make Microsoft's conduct any less a tie. In any event, Microsoft made it likely that "using Navigator on Windows 98 would have unpleasant consequences for users." FF 172 (JA 2290). Microsoft challenges neither that finding nor the related finding that "Windows 98 override[s] the user's choice of default browser in certain circumstances." FF 171 (JA 2290). It merely tries to put a better face on such findings. *See* MS Br. 81-83.

Finally, Microsoft argues that its tying arrangement did not prevent Netscape from getting Navigator into the hands of consumers. MS Br. 83, citing *Roy B. Taylor Sales, Inc. v. Hollymatic Corp.*, 28 F.3d 1379, 1383 (5th Cir. 1994) (noting that, where "only dealers are subject to a tie, competitors do not lose a segment of the tied market if there are genuine available paths to consumers") (footnote omitted). Microsoft ignores the relevant part of that case, which supports the district court's decision here. The defendant, Hollymatic, sold machines for making hamburger patties to its dealer, Taylor. Hollymatic also required Taylor to buy Hollymatic's patty paper. But Taylor's customers were free to buy Hollymatic machines from Taylor while buying patty paper elsewhere. 28 F.3d at 1383. Reasoning that such ties "create relatively little danger to competition, provided consumers may purchase the two goods separately," the court applied rule of reason analysis to the requirement. *Id.* (footnote omitted). Critically, however, the court added in a footnote, which Microsoft omits, that when a tie at the distributor level results in consumer purchase of the items together, there is foreclosure at the consumer level. *Id.* at 1383 n.23.

This case fits the *Hollymatic* footnote. Microsoft quotes the district court's finding that Netscape had "access to every PC user worldwide" (MS Br. 83), without noting the part of the same sentence referring to Microsoft's preemption of "the most efficient channels of distribution." CL at

53 (JA 2433); *see* pp. 31-32, *supra*. By contractual provision and technological artifice, Microsoft ensured that its tied sales to OEMs resulted in tied sales by the OEMs to consumers. Indeed, that was the point of the tie. As the district court explained, "Microsoft has never allowed OEMs to ship Windows 95 to consumers without [IE]" and has even barred OEMs from using the very features Microsoft allowed consumers to use to uninstall IE from Windows 95. FF 158, 176 (JA 2287, 2291). Microsoft "knew that the inability to remove [IE] made OEMs less disposed to pre-install Navigator onto Windows 95." FF 159 (JA 2287).

> Similarly, Microsoft refused to license Windows 98 to OEMs unless they also agreed to abstain from removing the icons for [IE] from the desktop. [FF] 213. Consumers were also effectively compelled to purchase [IE] along with Windows 98 by Microsoft's decision to stop including [IE] on the list of programs subject to the Add/Remove function and by its decision not to respect their selection of another browser as their default. [FF] 170-72.

CL at 50 (JA 2430). Microsoft's efforts were not wasted: Consumers cannot buy Windows without IE. The intended anticompetitive effect did occur.

IV. THE DISTRICT COURT DID NOT COMMIT REVERSIBLE ERROR IN THE SCHEDULING OR CONDUCT OF THE PROCEEDINGS ON LIABILITY

Microsoft argues that the district court erred in various scheduling, procedural, and evidentiary rulings. MS Br. 64, 67, 141-45. To the contrary, the court properly exercised its broad discretion to provide a fair and expeditious resolution of this case.

A. The District Court Did Not Abuse Its Discretion In Managing Its Docket

Microsoft argues (MS Br. 67, 142-43) that the district court committed reversible error in allowing five months for pre-trial preparation. Microsoft bears a "heavy burden" in making this argument, *In re Fine Paper Antitrust Litig.*, 685 F.2d 810, 817 (3d Cir. 1982), because a "trial court is endowed with great discretion to make decisions concerning trial schedules," *United States v. Taylor*, 487 U.S. 326, 343 (1988). An appellate court

> will not interfere with a trial court's control of its docket "except upon the clearest showing that the procedures have resulted in actual and substantial prejudice to the complaining litigant." Similarly, [it] will not upset a district court's conduct of discovery procedures absent "a demonstration that the *court's* action made it impossible to obtain crucial evidence . . . ."

Fine Paper, 685 F.2d at 817-18 (internal citations omitted); *see Berry v. District of Columbia*, 833 F.2d 1031, 1037 n.24 (D.C. Cir. 1987) (discretion in managing docket); *Carey Can., Inc. v. Columbia Cas. Co.*, 940 F.2d 1548, 1559 (D.C. Cir. 1991) (discretion in discovery and evidentiary rulings). Microsoft does not come close to meeting this standard.

Civil litigation is meant to be "just, *speedy*, and inexpensive." FED. R. CIV. P. 1 (emphasis added). As Microsoft recognizes (MS Br. 142), the district court was determined to avoid the delay that dogged prior Section 2 cases against IBM and AT&T. That objective was more than "perhaps" laudable (*id.*) – it was essential. Microsoft itself emphasizes that the computer industry is subject to "rapid technological change" and "dramatic improvements" that "regularly alter the entire competitive landscape." *Id.* at 16 (capitalization altered). Courts routinely expedite matters in light of the public interest involved, and a five-month trial preparation time was reasonable (and hardly "a 100-yard dash," *id.* at 142) – especially in light of Microsoft's extraordinary resources, its unique knowledge of the subject matter of the suit, and the government's heavy reliance on Microsoft's own documents and statements. Indeed, early in the case, Microsoft agreed to a prompt trial date. *See* Tr. 8/6/98 at 11-12 (JA 13977-78). Thereafter, the court accommodated reasonable requests to postpone the trial three times, by a total of six weeks – each time in response to *jointly stipulated* proposed scheduling orders.[76] The district court did not abuse its discretion in denying Microsoft's final request for a two-week delay in light of the company's failure to demonstrate a need for further delay. *See* Order (Oct.

[76] Schedl'g Order at 2, 3 (Aug. 20, 1998) (changing trial date from Sept. 8 to Sept. 23), Am. Schedl'g Order at 1, 2 (Sept. 14, 1998) (changing trial date to Oct. 15), Second Am. Schedl'g Order at 1, 3 (Oct. 9, 1998) (changing trial date to Oct. 19) (JA 13715-16, 13753-54, 13755, 13757).

14, 1998) (JA 416); Pls.' Opp'n To MS's Mot. For Continuance (Oct. 13, 1998) (JA 13759-62); Tevanian Dep. (Oct.19, 1998), Gosling Dep. (Oct. 30, 1998 & Nov. 6, 1998) (depositions taken after receiving direct trial testimony) (JA 15296-301, 15170-79).

There is no merit to Microsoft's contention that the government "dramatically expanded" (MS Br. 142) its case following Microsoft's initial acquiescence in the trial schedule. The complaint and other documents clearly put Microsoft on notice, at the outset, of the government's central claim of monopoly maintenance. *See, e.g.*, US Compl. ¶¶ 4-5, 13, 36, 37, 138-39 (JA 139-40, 143, 150, 151, 187); Mem. In Supp. Of Mot. For Prelim. Inj. at 4-5 (May 18, 1998) (PI Memo) (JA 13633-34). That claim has remained the core of the government's case throughout these proceedings. *See United States v. Microsoft Corp.*, 1998-2 Trade Cas. (CCH) ¶ 72,261 (D.D.C. 1998) (denying Microsoft's summary judgment motion); CL at 35-44 (JA 2415-24). All the evidence that Microsoft claims "dramatically expanded" the case relates to that claim. To be sure, the district court did permit the government to discover and present additional evidence not specifically mentioned in the complaint, but that was entirely proper. Federal Rule of Civil Procedure 8 requires only a "short and plain statement," not a listing of all of a plaintiff's evidence. *Caribbean Broad. Sys., Ltd. v. Cable & Wireless PLC*, 148 F.3d 1080, 1085-86 (D.C. Cir. 1998); *Atchinson v. District of Columbia*, 73 F.3d 418, 421-22 (D.C. Cir. 1996).

Microsoft was not prejudiced by the introduction of additional evidence not specifically enumerated in the complaints. Contrary to its contentions (MS Br. 142-43), Microsoft had sufficient opportunity to obtain – and, in fact, did obtain – extensive discovery. The district court did not limit the number of depositions Microsoft could take or interrogatories it could serve. Pretrial Order No. 1, ¶¶ 2-3 (June 12, 1998) (JA 241). The court granted Microsoft's requests for leave to conduct additional depositions after discovery had ended (Order at 1-2 (Oct. 14, 1998) (JA 13763-64); Tr.

10/28/98 am at 13-14 (JA 13999-14000)), and to take extensive additional document discovery and four more depositions – including that of Steve Case, AOL's chairman and CEO – in mid-trial after AOL acquired Netscape.[77] Even with respect to the allegations it says were "expanded," Microsoft had sufficient notice of, and obtained all of the discovery it needed to prepare its defenses to, additional evidence concerning Java,[78] Intel,[79] Apple,[80] RealNetworks,[81] and IBM.[82] Microsoft has

[77] Order (Jan. 22, 1999) (JA 13777); Currie Dep. (Apr. 28, 1999), Popov Dep. (Apr. 30, 1999), Schuler Dep. (May 5, 1999), Case Dep. (May 21, 1999) (JA 15065, 15223, 15268, 15049); Notice of Third Party Subpoenas & Attached Subpoenas (Feb. 15, 1999) (document subpoenas of Netscape, AOL, and Sun), Notice of Third Party Subpoenas & Attached Subpoenas (Feb. 19, 1999) (document subpoenas of Goldman, Sachs & Co., Kleiner Perkins Caufield & Byers, and Morgan Stanley Dean Witter & Co.) (JA 13780, 13810).

[78] *See* US Compl. ¶¶ 7, 8, 15, 68, 122 (JA 141, 143, 161, 183); PI Memo at 20 n.13, 62 & n.57 (citing exhibits) (JA 13635-36); Croll Dep. (July 14, 1998), Sasaki Dep. (July 14, 1998), Kannegaard Dep. (Oct. 16, 1998), Gosling Dep. (Oct. 30, 1998 & Nov. 6, 1998) (JA 15056, 15230, 15189, 15170); Order (Oct. 14, 1998) (JA 13763).

[79] *See* Ltr. from K. Guilianelli to S. Holley (June 2, 1998) (including MS CID 00077 (GX 279)), Ltr. from K. Guilianelli to S. Wheeler (June 6, 1998) (JA 13637, 13651); McGeady Dep. (Aug. 10, 1998), Barck Dep. (Aug. 25, 1998), Sullivan Dep. (Aug. 25, 1998), Whittier Dep. (Aug. 25, 1998) (JA 15194, 15031, 15276, 15302); Notice Of Third Party Subpoena (Aug. 13, 1998), Notice Of Third Party Subpoena, Attach. C (Sept. 8, 1998) (JA 13690, 13728); McGeady Dep. (Oct. 8, 1998) (JA 15201).

[80] *See* Ltr. from K. Guilianelli to S. Wheeler (June 6, 1998), Ltr. from S. Roth to S. Wheeler (June 19, 1998) (JA 13651, 13662); Tevanian Dep. at 136-46, 180 (July 17, 1998) (JA 15283-95); Notices of Third Party Subpoenas to Tim Schaaff & Phil Schiller (July 31, 1998) (JA 13684); Ltr. from J. Cove to S. Holley (Aug. 14, 1998), Ltr. from S. Roth to S. Holley (Aug. 14, 1998) (JA 13699, 13700); Pls.' Third Joint Req. For Produc. Of Docs. at 5 (Aug. 14, 1998) (JA 13704-05); Ltrs. from J. Cove to S. Holley (Aug. 17 & 24, 1998) (JA 13706, 13719); Schaaff Dep. (Aug. 28 & Sept. 16, 1998), Schiller Dep. (Sept. 11 & Oct. 13, 1998), Tevanian Dep. (Oct. 19, 1998), Engstrom Dep. (Sept. 28, 1998), Phillips Dep. (Oct. 14, 1998) (JA 15239, 15251, 15296, 15072, 15216).

[81] *See* Ltr. from W. Enloe to S. Holley (Sept. 11, 1998), Ltr. from J. Wilson to S. Holley (Sept. 12, 1998) (JA 13736, 13751); Pls.' Joint Resp. To MS's Mot. For Summ. J. & Reply In Supp. Of Mots. For Prelim. Inj. at 8 (Aug. 31, 1998) (JA 13726-27); Gates Dep. at 490-96 (Aug. 28, 1998), Engstrom Dep. at 99-158, 186-204 (Sept. 28, 1998), Barrett Dep. (Oct. 7, 1998), Jacobsen Dep. (Oct. 7, 1998) (JA 15162-69, 15082-160, 15040, 15180).

[82] *See* Pls.' Joint Rebuttal Witness List, Ex. 3 (JA 13765-67); MS Subpoena to IBM & Norris (May 4, 1999) (JA 13834); Norris Dep. (May 27, 1999) (JA 15206).

not shown any prejudice – let alone "actual and substantial" prejudice – from the discovery schedule. Critically, Microsoft never identified to the district court any specific additional depositions or document discovery it needed but was unable to complete before trial; now, on appeal, it simply asserts that, if it had more time, it would have conducted more discovery.

Microsoft also objects (MS Br. 142) to the district court's decision to limit each side to twelve witnesses in the opening phase of the trial, and three in the rebuttal phase. But Microsoft *agreed* to the twelve-witness limit for each side's case-in-chief. *See* Tr. 12/2/98 am at 11 (the court stating, "Keep in mind that both sides agreed to the number of witnesses") (JA 14083); Pretrial Order No. 1, ¶ 11 (June 12, 1998) (establishing limit) (JA 242); *see also* MANUAL FOR COMPLEX LITIGATION (THIRD) § 21.643 (1995) (recommending limiting the number of witnesses). Moreover, the district court repeatedly made clear its willingness to consider any proposals for additional witnesses via live testimony, video deposition, or written direct testimony,[83] but Microsoft *never* requested additional witnesses during trial. In addition, Microsoft took full advantage of the court's use of written direct trial testimony by submitting testimony longer and more detailed than Microsoft could reasonably have expected to adduce in live direct testimony.[84]

B. The District Court Did Not Rely On Inadmissible Hearsay In Making Any Essential Finding Of Fact

Microsoft incorrectly contends that the district court impermissibly admitted certain hearsay evidence, MS Br. 143-45. District court evidentiary rulings are reviewed for abuse of discretion and are not reversed unless manifestly erroneous. *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 141-42 (1997). The standard of review is at its most deferential in bench trials because judges are skilled at assessing

[83] *See, e.g.*, Tr. 6/9/98 at 3, Tr. 10/20/98 pm at 5, Tr. 10/27/98 pm at 86-88, Tr. 12/2/98 am at 11-12, Tr. 6/14/99 am at 52-53 (JA 231, 4680, 5261-63, 14083-84, 14313-14).

[84] *See, e.g.*, Schmalensee Direct Test. (581 pages, including testimonial appendices), Maritz Direct Test. (160 pages), Allchin Direct Test. (139 pages) (JA 4110, 3639, 3282).

the reliability of evidence. Accordingly, a district judge has broad discretion to admit hearsay. *See Pan Am. World Airways, Inc. v. Aetna Cas. & Sur. Co.*, 505 F.2d 989, 996 (2d Cir. 1974); *see also Harris v. Rivera*, 454 U.S. 339, 346 (1981) ("In bench trials, judges routinely hear inadmissible evidence that they are presumed to ignore when making decisions.").

Furthermore, Microsoft must show that it has been substantially prejudiced by reliance on inadmissible evidence. "[I]n bench trials, the admission of incompetent or irrelevant evidence is not a ground for reversal when there is sufficient competent evidence to support the judgment and it does not appear that the court was induced by . . . [inadmissible] evidence to make essential findings that it otherwise would not have made." *Greater Kan. City Laborers Pension Fund v. Superior Gen. Contractors, Inc.*, 104 F.3d 1050, 1057 (8th Cir. 1997) (internal quotation omitted); s*ee also United States v. Matlock*, 415 U.S. 164, 176 (1974). *Accord Multi-Med. Convalescent & Nursing Ctr. of Towson v. NLRB*, 550 F.2d 974, 977 (4th Cir. 1977).

Microsoft makes no serious effort to meet these rigorous standards. It argues that reliance on inadmissible hearsay was "inevitable given the way the trial was conducted" (MS Br. 144), apparently alluding to the fact that the district court, without objection from Microsoft, allowed "liberal use of summary witnesses, as necessary." Tr. 6/9/98 at 2 (JA 230); Pretrial Order No. 1, ¶¶ 11-12 (June 12, 1998) (JA 242). The use of summary witnesses is consistent with the district court's broad authority to "exercise reasonable control over the mode and order of interrogating witnesses and presenting evidence so as to (1) make the interrogation and presentation effective for the ascertainment of the truth, [and] (2) avoid needless consumption of time . . . ." FED. R. EVID. 611(a). *See also* MANUAL FOR COMPLEX LITIGATION (THIRD) § 22.51 (1995); WRIGHT & MILLER, FEDERAL PRACTICE AND PROCEDURE § 6026.

Microsoft clearly understood that testimony by summary witnesses "may involve hearsay statements," and it "agree[d] that the parties should be given some latitude in view of the Court's decision to permit the use of summary witnesses." MS's Mot. In Lim. To Excl. Hearsay Stmts. In Direct Exam. Of Jim Barksdale at 2 (Oct. 19, 1998) ("Motion in Limine") (JA 418). Indeed, Microsoft exhibited that understanding by introducing a substantial amount of hearsay evidence of its own. *See, e.g.,* Maritz Tr. 1/25/99 pm at 5 (admitting hearsay contained in videotape testimony), Tr. 10/26/98 am at 28-29 (admitting news articles), Tr. 10/29/98 pm at 12-13 (same), Tr. 11/19/98 pm at 71-72 (admitting accounting firm's study of venture capital market) (JA 14192, 13982-83, 14002-03, 6511-12).

Furthermore, the court repeatedly stated that the weight, if any, given to hearsay would be subject to further assessment (*see, e.g.,* Tr. 1/25/99 pm at 4-5, 6-10; Tr. 10/26/98 am at 29; Tr. 10/20/98 pm at 4-5; Tr. 11/19/98 pm at 81-82 (JA 14191-97, 13983, 4679-80, 6521-22)), and that hearsay evidence would be subject to a later motion to strike (*see* Tr. 1/25/99 pm at 4-5, Tr. 10/20/98 pm at 5-6 (JA 14191-92, 4680-81)). The district court also offered Microsoft the opportunity to introduce additional evidence, even including additional witnesses, to respond to any objectionable hearsay. Tr. 10/20/98 pm at 5 (JA 4680). Microsoft never took up that offer.

Microsoft asserts (MS Br. 144) that a number of findings of fact were based in part on hearsay evidence, but it identifies only one finding – that "Microsoft threatened to penalize individual OEMs that insisted on pre-installing and promoting Navigator" (FF 241 (JA 2307)) – that it claims is supported *only* by hearsay. Microsoft's claim is false: FF 241 is amply supported both by competent direct testimony and by admissible hearsay. At the trial, IBM executive Garry Norris testified that he was present at a March 1997 meeting in which a Microsoft executive stated that "We have a problem if [IBM] load[s] Netscape" on its PCs and that there would be "MDA repercussions" – in effect, that IBM would receive lower discounts, and thus pay a higher price for Windows than its OEM competitors, if IBM persisted in loading Navigator. Tr. 6/8/99 am at 49, 50 (JA 14304-05); *see also id.* at 28-31 (JA 14295-98).

Norris's in-court testimony was corroborated by his contemporaneous notes of the March 1997 meeting, which were plainly admissible under Federal Rule of Evidence 803(1) and were admitted without objection by Microsoft. GX 2164 (JA 14971); *see* Norris Tr. 6/8/99 am at 23, 35-36, 46-47 (JA 14294, 14299-302). In addition, FF 241 was supported by an e-mail written by a Gateway employee after he "just got off the phone" with Microsoft, which records a Microsoft employee stating (1) that Gateway's use of Netscape on its corporate intranet was "a HUGE issue with MS" and threatening that Microsoft "wants to get back to doing co-marketing and sales campaigns with [Gateway], but . . . won't if they see [Gateway] is anything but pro Microsoft"; (2) that "Dell turned Netscape down because they did not want to hurt their relationship with Microsoft" and that "they (Dell) get special things because of it"; and (3) that the issue of Gateway's usage of Netscape "has Ballmer's attention as well." GX 308 (JA 14550). Microsoft did not object to admission of this exhibit, which also was clearly admissible under Rule 803(1).

Moreover, the findings that Microsoft asserts are based *in part* on hearsay – FF 49-50, 54 (BeOS and Linux are not significant competitors to Windows) (JA 2261, 2262) – are also supported by admissible non-hearsay evidence. *See, e.g.*, GX 568 (JA 9908); Warren-Boulton Tr. 12/1/98 am at 45-49 (BeOS is not a significant competitor to Windows), 51 (playing excerpts of deposition of Bryan Sparks) (Linux does not "have the application base to really compete as a desktop") (JA 14072-76, 14077); GX 1568 (JA 10641); Fisher Tr. 6/3/99 pm at 25 (JA 14279), Warren-Boulton Tr. 12/1/98 am at 56-59 (Linux is not a significant competitor to Windows) (JA 14078-81); GX 1378 (CEO Gates's statement that "I've never had a customer mention Linux to me") (JA 14957). Indeed, Microsoft's own expert acknowledged that Linux and BeOS were not competitive constraints on Microsoft in the short run and that he could not predict whether they ever would be. *See* Schmalensee Tr. 1/13/99 pm at 52-53, 42, 69-70, 72-73 (JA 14116-20, 14122-23). And in any event, the hearsay evidence supporting these findings was clearly admissible, either because Microsoft stipulated to its admission (*see, e.g.*, GX 2091 (news article quoting IBM executive's statement that there "are just not enough applications to make it worthwhile" for IBM to install Linux on its PCs) (JA 14967-68)); Tr. 6/3/99 pm at 79 (JA 14280)), or because the evidence was admissible under a hearsay exception (*see, e.g.*, GX 1240 (sealed) (Compaq internal report regarding BeOS) (JA 17107). *See also* FED. R. EVID. 803(6) (hearsay exception for business records of regularly conducted activity)).

Finally, Microsoft's argument that the district court improperly admitted the deposition testimony of Bruce Jacobsen "to prove contested issues" lacks merit. MS Br. 141. Microsoft does not identify any finding supported solely by this testimony. Moreover, Microsoft stipulated to the admission of Mr. Jacobsen's deposition testimony and responded to its substance by counter-designating excerpts pursuant to Rule 106 and by supplementing Robert Muglia's direct testimony with ten additional pages.[85] Microsoft offers no foundation or explanation for its assertion that it "noticed and took depositions in reliance" on its belief that deposition excerpts would be offered to prove only subordinate or predicate issues. MS Br. 141. Indeed, Microsoft's assertion is belied by the fact that at trial Microsoft stipulated to the admission of hundreds of pages of excerpts from dozens of depositions. *See, e.g.*, Stip. & Order Regarding Dep. Excerpts (Jan. 13, 1999), Stip. & Order Regarding Dep. Excerpts (June 22, 1999), Stip. & Order Regarding Dep. Excerpts (June 30, 1999)

[85] FED. R. EVID. 106; Stip. & Order Regarding Dep. Excerpts at 1-2, 3 (Jan. 13, 1999) (JA 13768-70); Tr. 1/13/99 pm at 5-6 (JA 14114-15); Suppl. Direct Test. Of Robert Muglia (Feb. 21, 1999) (JA 3870).

(JA 13768, 13843, 13848). And Microsoft relied on deposition excerpts in its own proposed findings, including on points Microsoft argues are central to its case. *See, e.g.*, MS Rev. Prop. FF at ¶¶ 477-78 (citing excerpts from Andreessen and Clark depositions regarding Navigator's distribution) (JA 1781).

V. THE DISTRICT COURT PROPERLY ORDERED STRUCTURAL AND CONDUCT REMEDIES AND FOLLOWED APPROPRIATE PROCEDURES IN DOING SO

Microsoft violated the antitrust laws through a wide range of predatory and exclusionary acts that maintained its operating system monopoly by protecting and raising the applications barrier to entry. CL at 44-50 (JA 2424-30). That illegal conduct restricted consumer choice and deterred innovation in the personal computer industry. *Id.* To undo these anticompetitive effects and prevent further illegal conduct, the district court properly ordered structural and conduct relief that alters Microsoft's incentive and ability to destroy competition. The court's remedy was lawful and appropriate, and Microsoft's complaint that the court did not engage in sufficient process before ordering its remedy is without merit.

A. The District Court Did Not Abuse Its Discretion In Ordering The Remedy

Remedies in Sherman Act cases should end the unlawful conduct, prevent its recurrence, and undo its anticompetitive consequences. *See Nat'l Soc'y of Prof'l Eng'rs v. United States*, 435 U.S. 679, 697 (1978); *United States v. E.I. du Pont de Nemours & Co.*, 366 U.S. 316, 326 (1961); *Int'l Salt Co. v. United States*, 332 U.S. 392, 401 (1947). "The District Court is clothed with 'large discretion' to fit the decree to the special needs of the individual case." *Ford Motor Co. v. United States*, 405 U.S. 562, 573 (1972). That discretion includes the power to impose divestiture, "the most important of antitrust remedies. It is simple, relatively easy to administer, and sure." *du Pont*, 366 U.S. at 330-31 (remedying violation of Section 7 of Clayton Act). Divestiture has long been used to remedy monopolization violations of Section 2. *See, e.g., United States v. United Shoe Mach. Corp.*, 391 U.S. 244 (1968); *United States v. Crescent Amusement Co.*, 323 U.S. 173 (1944); *United States v. Am. Tobacco Co.*, 221 U.S. 106, 187-88 (1911); *Standard Oil Co. v. United States*, 221 U.S. 1, 79 (1911). In *Crescent Amusement*, for example, the Supreme Court upheld a divestiture when an exercise of power by a combination violated the Sherman Act and its continued existence created a "tempting opportunity" for further anticompetitive conduct. 323 U.S. at 189. As the Supreme Court has explained, a divestiture should "(1) put 'an end to the combination or conspiracy when that is itself the violation'; (2) deprive 'the antitrust defendants of the benefits of their conspiracy'; and (3) 'break up or render impotent the monopoly power which violates the Act.'" *Int'l Boxing Club of N.Y., Inc. v. United States*, 358 U.S. 242, 253 (1959).

1. Divestiture Of Microsoft Into "OpsCo" And "AppsCo"

a. The centerpiece of the district court's decree is the separation of Microsoft's operating systems and applications businesses into two independent companies pursuant to a detailed plan that Microsoft itself is to prepare. FJ § 1.a (JA 2846). That structural remedy seeks to redress the cornerstone of the government's complaint and proof at trial, which was that Microsoft had unlawfully sought to maintain its monopoly power in the PC operating system market. The "OpsCo" will own the Windows operating systems (including Windows 95, Windows 98, Windows 2000, Windows NT, and Windows CE) and have a perpetual license to Internet Explorer. The "AppsCo" will own Microsoft's other businesses, including its Office suite of desktop applications, its developer tools business, and Internet Explorer. This divestiture preserves Microsoft's existing business units, but fundamentally alters incentives and restores lost competitive conditions by: reducing the applications barrier to entry; reducing incentives for the separated businesses to act anticompetitively; and ensuring that future technologies with the potential to threaten the Windows monopoly are able to compete unfettered by Microsoft's anticompetitive strategies. The remedy aims to permit competition – rather than Microsoft, the government, or the courts – to determine which technologies prevail in the marketplace.

Separating OpsCo from AppsCo responds directly to the violations proved at trial. The evidence showed and the district court found that, as part of its illegal efforts to defeat the emergence of middleware, Microsoft repeatedly used its dual control over the operating system and applications to undertake product development and marketing schemes that have no legitimate justification and were done solely to perpetuate its Windows monopoly. *See, e.g.*, McGeady Tr. 11/9/98 pm at 54 (Microsoft is "'going to fight this [the threat from Navigator] with both arms,' the OS arm and the applications arm") (JA 14029); FF 345 (using "the importance of Mac Office to Apple's survival," to cause Apple to take steps to protect Microsoft's OS monopoly) (JA 2333); RX 1 (using control over Office and applications so that they work only with Microsoft's operating system for PDAs rather than with Palm operating system), RX 2 (JA 14987, 14988); Harris ¶¶ 102-13 (JA 3088-93). Microsoft took these actions – passing up profit opportunities for its applications – because of its powerful incentive to protect the OS monopoly. FF 355 (JA 2335).

The divestiture will reduce the applications barrier to entry, directly offsetting the harm found by the district court. Because AppsCo will no longer have a stake in the Windows monopoly, it will cease to have an incentive to protect that monopoly and will, instead, be able to respond to ordinary market incentives to port its powerful and widely used applications – such as Excel, the Office suite, and Internet Explorer – to other platforms, such as Linux or sub-PC operating systems installed on personal digital assistants or wireless telephones, thereby both immediately making those operating systems more attractive to users and increasing their credibility and the likelihood that other ISVs will write applications for them.

AppsCo also will have incentives to invent new products that exploit a variety of technologies that may threaten the Windows monopoly. *See* Shapiro Decl. at 9-10, Henderson Decl. ¶¶ 19-22, 104-06, Romer Decl. ¶¶ 20, 25 (JA 2549-50, 13861, 13864-65, 13872, 13873). AppsCo will have incentives to develop its own cross-platform middleware. Office and IE expose APIs, have extraordinarily broad distribution, and thus have significant potential to erode the applications barrier to entry. A firm that owned Office and IE but not the Windows monopoly would have a greater incentive to develop Office or IE into alternative platforms and to encourage ISVs to write to their APIs. Henderson Decl. ¶¶ 102-03, Romer Decl. ¶¶ 20, 25-27 (JA 13863-64, 13872-74). And because Office and IE (like Windows) have a dominant level of market penetration, those applications could provide a valuable distribution channel for other types of middleware that may arise as future threats to the applications barrier to entry. Henderson Decl. ¶ 66, Romer Decl. ¶ 6 (JA 13862, 13869). Although the divestiture cannot re-create the threat from Navigator and Java that arose in the mid-1990s and has been illegally crushed by Microsoft, it will restore marketplace conditions that foster such threats.

b. Microsoft offers a number of arguments against the divestiture, mixing both legal and factual arguments to contend that the district court abused its discretion in ordering structural relief. Microsoft's arguments lack merit.

First, Microsoft contends that divestiture of a "unitary" company is unprecedented. *See* MS Br. 128. But the Supreme Court rejected that very argument ninety years ago, when made by Standard Oil in an effort to forestall divestiture. *See, e.g.,* Pet. Standard Oil Br., No. 09-725, at 120-21 ("[t]he inherent vice of this decree is that it seeks to create an artificial division which never existed before") (JA 15317-18); *id.* at 284 (JA 15320) ("[a]ll these . . . are naturally a part of one whole – all operated together and to and with each other – all are useful to the other, and to be so useful must have a connection with one or more of the others . . . . There are many parts, but each part has its place, and if a part is taken out, the whole structure is disintegrated"). *See Standard Oil*, 221 U.S. 1.

The Supreme Court rejected a similar argument in *United Shoe Machinery*. The company cited approvingly from district court findings that United Shoe Machinery "conducted all machine manufacture at a single plant . . . with one set of jigs and tools, one foundry, one laboratory for machinery problems, one managerial staff, and one labor force; and that no means existed of dividing these facilities or converting them into three factories." Resp. United Shoe Machinery Br., No. 597, at 5 (JA 15321-22). The Supreme Court, however, reversed the district court's order denying the government's request that the company be broken up. *United Shoe Machinery,* 391 U.S. at 251-52. And in the *AT&T* case, the company made the same argument, in terms strikingly similar to those used by Microsoft now. *Compare* AT&T's Third Statement Of Contentions & Proof at 2125 (D.D.C.) (No. 74-1698) (Mar. 10, 1980) ("The integrated structure of the Bell System has provided Bell with an unparalleled opportunity to employ a systems approach in order to realize economies of scale and sharing and effectively to manage the technology of the world's largest, most complex and most reliable assemblage of electronic equipment.") (JA 15323-24), *with* MS Br. 133 ("Microsoft's unified structure also enables it to conceive and implement bold ideas that span operating systems and applications."). That United Shoe Machinery and AT&T ultimately were broken up pursuant to consent decrees does not detract from the appropriateness of or authority for a court-ordered divestiture. United Shoe Machinery agreed to a breakup only after the Supreme Court held that the district court had erred by not ordering one. *United Shoe Machinery*, 391 U.S. at 251.

In any event, Microsoft is not the "unitary" company it now claims to be. For years, Microsoft has had separate operating systems and applications divisions, housed in different buildings (RX 49

(JA 15003)), with little interaction between them. Two books about Microsoft, cited approvingly by Microsoft's testifying economic expert (Schmalensee ¶¶ 195-96 (JA 4290-91)), emphasize that Microsoft's organizational strength lies in people working in small teams, along product lines. RX 45, 46 (JA 14999, 15001). Those groups work independently, making technology sharing difficult. RX 40, 46 (JA 14992, 15001). The fact that Microsoft voluntarily reorganizes itself about every two years itself refutes the notion that the court-ordered divestiture plan would disrupt the ability of the new companies to operate effectively. *See* RX 40, 43 (JA 14992, 14996).

Second, Microsoft contends that divestiture is not supported by a causal connection between its conduct and its "market position." MS Br. 129-30. But the divestiture ordered by the district court does not affect Microsoft's position in any market. Instead, as explained above, it simply changes incentives so that that position will be used in procompetitive ways, rather than in the anticompetitive ways found by the court. Divestiture thereby reduces the applications barrier to entry that the court found Microsoft had unlawfully increased.

Moreover, Microsoft's own documents make clear that the company viewed Navigator and Java as threats to its Windows monopoly, and that it undertook the anticompetitive campaign found by the district court precisely because it believed there was a "causal connection" (MS Br. 129) between that campaign and the perpetuation of its Windows monopoly. *See* FF 411 (JA 2349); *see also* pp. 83-84, *supra*. The district court found that Microsoft's actions did to a considerable extent forestall the threat to the barrier to entry protecting its monopoly. *See* FF 385 ("Microsoft has succeeded in forestalling the development of enough full-featured, cross-platform, network-centric applications to render the applications barrier penetrable . . . .") (JA 2343).

Third, Microsoft argues (MS Br. 130) that divestiture extends far beyond what is necessary to remedy its anticompetitive conduct, relying on *United States v. National Lead Co.*, 332 U.S. 319

(1947). But *National Lead* stands for the principle that "[a]n understanding of the findings of fact is essential" to determining the proper remedy. 332 U.S. at 338. As the Supreme Court subsequently explained, in *National Lead* "there was no showing that the plants sought to be divested were either unlawfully acquired *or used* in a manner violative of the antitrust laws." *Schine Chain Theatres, Inc. v. United States*, 334 U.S. 110, 128 (1948) (emphasis added). Here, the district court found that Microsoft used its dual control of the operating system and applications business anticompetitively, thus justifying divestiture even if Microsoft initially obtained its monopoly legitimately.

The district court did not abuse its discretion in determining that divestiture was more appropriate on these facts than a remedy limited to conduct restrictions. As the Supreme Court has long held, "[w]hen the purpose to restrain trade appears from a clear violation of law, it is not necessary that all of the untraveled roads to that end be left open and that only the worn one be closed." *Int'l Salt*, 332 U.S. at 400. Nothing in antitrust law limits courts to ordering injunctive conduct remedies against proven antitrust violators. *Prof'l Engineers,* 435 U.S. at 698; *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 132 (1969); *United States v. U.S. Gypsum Co.*, 340 U.S. 76, 88-89 (1950); *Schine*, 334 U.S. at 128; *United States v. Bausch & Lomb Optical Co.*, 321 U.S. 707, 727 (1944). Microsoft's operating system monopoly and dominance in applications (including IE) give it the incentive and ability to undertake the forms of anticompetitive conduct proved at trial and to pursue future variants of its past anticompetitive strategies that are impossible to predict. *See, e.g.*, RX 1 (e-mail from CEO Gates to senior Microsoft executives discussing Microsoft's strategy for Windows CE, its operating system for personal digital assistants (PDAs): "We really need to demonstrate to people like Nokia why our PDA will connect to Office in a better way than other PDAs[,] even if that means changing how we do flexible schema in Outlook and how we tie some of our audio and video advanced work to only run on our PDAs.") (JA 14987).

Injunctive relief crafted for the long term necessarily would involve complex and highly intrusive restrictions on Microsoft's conduct, might result in regulation rather than consumer choice determining market outcomes, and would require continued monitoring of Microsoft's future activities. *See United States v. AT&T*, 552 F. Supp. 131, 167-68 (D.D.C. 1982) ("it is unlikely that, realistically, an injunction could be drafted that would be both sufficiently detailed to bar specific anticompetitive conduct yet sufficiently broad to prevent the various conceivable kinds of behavior that AT&T might employ in the future"), *aff'd sub nom. Maryland v. United States*, 460 U.S. 1001 (1983).

The court's ordering of structural relief also reasonably took into account two other factors bearing on the propriety of conduct remedies. First, the court noted Microsoft's "untrustworthy" response to the court's 1997 injunctive order in the consent decree case. Remedy Order at 62 (JA 2844). Microsoft attempts to avoid blame by claiming that "it was DOJ that misled the court" into issuing the order. *See* MS Br. 48. But that claim is inaccurate, for the government was clear that Microsoft (1) should be barred only from forcing OEMs to accept and preinstall IE 3 and (2) would be free to do this by, for example, making separately available to OEMs who did not want to install IE the COMCTL32 file, which Microsoft said was essential to Windows operation and which it routinely distributed separately from IE 3. U.S. Reply Br. 16-17 (Nov. 20, 1997) (JA 15325-27); *see also* DX 1715 at 22871-72 (JA 11632-33). Microsoft's defiant response to the 1997 conduct order was properly considered by the court as part of its determination that conduct restrictions alone would not be sufficient to ensure adequate relief. *See Otter Tail Power Co. v. United States,* 410 U.S. 366, 381 (1973) ("The proclivity for predatory practices has always been a consideration for the District Court in fashioning its antitrust decree."). Second, Microsoft did not even attempt to argue that its proposed remedy would restore competition adversely affected by its illegal conduct. *See*

MS's Mem. In Supp. Of Its Prop. Final J. at 2 (May 10, 2000) (requests for relief to restore competition "are unwarranted as a matter of law"). Because Microsoft had known for months, if not years, of the real possibility of a break-up if plaintiffs prevailed on liability (*see* pp. 138-40, *infra*), but chose not to submit any remedy plan except the plainly inadequate May 10 proposal, the court was well within its discretion to accept the government's proposal.

Fourth, Microsoft contends that divestiture is inappropriate because the challenged conduct could reasonably have been thought permissible. MS Br. 131-32. But Microsoft focuses on the tying claim, rather than the monopoly maintenance charge that animated the court's structural relief. Any uncertainty about the proper standard for the tying of software products cannot cast doubt on the illegality of Microsoft's overall course of anticompetitive conduct to maintain its monopoly, which violated well-established antitrust principles.

Fifth, Microsoft argues that divestiture – regardless of how it would be planned and implemented by Microsoft under the court's order – will jeopardize important public benefits. MS Br. 132-33. But the court's findings demonstrate the harms to competition caused by Microsoft's conduct and the need for sound remedies to ameliorate such harms. *See* pp. 120-22, *supra*. The government presented the declarations of prominent experts who agreed that the benefits to society created by the remedy would far outweigh the costs. *See, e.g.*, Shapiro Decl. at 13-15, Henderson Decl. ¶¶ 122-25, Romer Decl. ¶¶ 9, 57-70 (JA 2553-55, 13866-67, 13870, 13875-80). The district court thus did not abuse its discretion in rejecting Microsoft's complaint that the costs of divestiture were unjustified.[86]

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[86] *See, e.g.*, MS's Mem. In Supp. Of Mot. For Summ. Rejection Of Govt's Breakup Proposal (May 10, 2000); MS's Summ. Resp. To Pls.' Prop. Final J. (May 10, 2000) (Summary Response); MS's Suppl. Offer Of Proof (May 31, 2000) (JA 2822-40).

Microsoft's predictions (MS Br. 133) that separating its operating systems and applications businesses will cause the company to reduce its innovation conflict with its own established practices and public statements. Microsoft often touts its close working relationships with ISVs and the enhancements to Windows that have come from outside developers. *See* MS Br. 18-19, 118; MS Rev. Prop. FF ¶¶ 34, 259, 312 (JA 1580, 1681, 1707); Maritz ¶¶ 133, 136-52 (JA 3691, 3692-98). There is no reason to believe that OpsCo could not continue to work effectively with an independent AppsCo.

Sixth, Microsoft contends that divestiture will cause unforeseen practical problems. MS Br. 133-34. Microsoft questions some details of the divestiture, but such questions are premature. The judgment appropriately leaves the details of divestiture to future proceedings and orders Microsoft, which knows its operations best, to suggest an implementation plan. Particular problems can be addressed in those proceedings. Requiring the defendant to supply a detailed divestiture plan is both traditional and sensible. *See Citizen Publ'g Co. v. United States,* 394 U.S. 131, 135 (1969); *United States v. Grinnell Corp.,* 384 U.S. 563, 577 (1966). A divestiture order "requires careful, and often extended, negotiation and formulation." *Brown Shoe Co. v. United States*, 370 U.S. 294, 309 (1962). At this stage, the Court need only affirm that the broad outline of the divestiture is not an abuse of discretion.

Finally, Microsoft contends (MS Br. 125) that "the whole decree must be vacated should any part of the district court's liability ruling be reversed," but the law is otherwise. The "inveterate and certain" rule in suits in equity is that "the appellee may . . . urge in support of a decree any matter appearing in the record." *Mass. Mut. Life Ins. Co. v. Ludwig*, 426 U.S. 479, 480-81 (1976) (per curiam) (internal citations omitted). Microsoft's only cited authority for its contention is not to the contrary. *See Concord Boat Co. v. Brunswick Corp.,* 207 F.3d 1039, 1053-54 (8th Cir.) (vacating a *damages* award because the verdict form had not asked the jury to allocate damages among claims), *cert. denied*, 121 S. Ct. 428 (2000).

2. Conduct Restrictions

Because divestiture will not take place until one year after all appeals in this case are resolved, the district court ordered transitional conduct restrictions to protect competition until the structural remedy becomes effective. Some conduct restrictions will terminate upon divestiture; others, three years later. *See* FJ §§ 1.d, 3 (JA 2846-51). Those conduct restrictions are designed to prevent Microsoft from repeating specific exclusionary strategies and actions that are "of the same type or class as unlawful acts which the court has found to have been committed or whose commission in the future unless enjoined, may fairly be anticipated from the defendant's conduct in the past." *Zenith Radio*, 395 U.S. at 132; *accord U.S. Gypsum*, 340 U.S. at 89; *Bausch & Lomb*, 321 U.S. at 727; *Int'l Salt*, 332 U.S. at 400. The conduct remedies will begin the process of reducing entry barriers and prevent further Microsoft exclusionary conduct before divestiture. They also ensure that, after the breakup, OpsCo will not be able to repeat Microsoft's exclusionary practices or interfere with the lowering of entry barriers that the structural remedy is designed to effect. They thus serve as an important adjunct to the divestiture provisions at the heart of the decree.

Microsoft makes two broad attacks against the conduct remedies. MS Br. 134-41. It also attempts to incorporate by reference other arguments it made in the district court. Those arguments not made in its opening brief, however, should be treated as waived. *See* p. 46, *supra*.

a. Microsoft contends that Section 3.b of the conduct remedy will require it to disclose proprietary information about its operating system to its competitors, "effectively plac[ing it] in the public domain." MS Br. 135. This claim is wrong. Section 3.b addresses Microsoft's practice of withholding from disfavored independent software vendors (ISVs) – i.e., ISVs that supported competing operating systems or whose products threatened to erode the Windows monopoly – the information necessary to facilitate interoperation of ISVs' software with Windows. It requires Microsoft to disclose to all ISVs only the Windows interface information that it gives to its own applications developers. FJ § 3.b (JA 2849).

The district court's findings provide ample justification for that requirement. Microsoft expressly conditioned the timing of disclosure to Netscape of critically important information about Windows 95 on Netscape's agreement not to compete. FF 90 (JA 2271). When Netscape did not agree, Microsoft's delay in disclosing the information delayed Netscape's release of its browser and caused it to miss most of the holiday selling season. FF 91 (JA 2271). Microsoft similarly withheld a scripting tool needed by Netscape. FF 92 (JA 2271). The court recognized more generally that ISVs are "highly dependent" on early and predictable disclosures of technical information by Microsoft in developing their software products and that this dependence gives Microsoft considerable power over ISVs that it utilized in an anticompetitive manner. FF 338 (JA 2331). Microsoft used this power in the First Wave agreements to condition early disclosure of important technical information to some ISVs on their agreeing to favor two Microsoft middleware products, Internet Explorer and Microsoft's version of the Java Virtual Machine. FF 338-40 (JA 2331). Unless prevented from doing so by the Final Judgment, Microsoft would retain the power to withhold important technical information from third-party developers whose products might threaten Windows' monopoly power.

Far from requiring Microsoft to put "nearly all intellectual property associated with Windows" in the public domain (MS Br. 136), the provision requires Microsoft to make available to all applications developers only information it now provides to Microsoft applications developers and to preferred third-party developers, information that those developers use to make their products more attractive complements to Windows. The decree does not prevent Microsoft from protecting its legitimate interests by conditioning disclosure of the information on strict confidentiality or restrictions that limit use of the information other than "for the sole purpose of enabling their products to interoperate effectively" with Microsoft platform software and bundled middleware. FJ § 3.b.iii (JA 2849). *See, e.g.*, GX 1125, 804 (JA 14863, 14803); *see also* GX 1519, 2164, 2167 (JA 14959, 14971, 14974). The decree also provides ISVs access in a secure facility to "relevant and necessary portions of the source code and any related documentation . . . for the sole purpose of enabling their products to interoperate effectively with Microsoft Platform Software." FJ § 3.b (JA 2849).

b. Microsoft argues that the conduct remedies interfere with its "product design and impair Microsoft's ability to preserve the integrity of Windows and to distribute upgraded components of Windows to its installed base of users." MS Br. 137. Its arguments focus on Sections 3.g, 3.a.iii, and 3.f of the decree.

First, Section 3.g prohibits Microsoft from "binding" separate middleware products to its OS unless it permits OEMs and end users to license a version of the OS "in which all means of End-User Access to that Middleware Product can readily be removed." FJ § 3.g.i (JA 2850). Microsoft asserts (MS Br. 137-38) that the provision "would subject many existing and virtually all new features of Microsoft's operating systems to challenge," but that assertion ignores the decree's definition of "Middleware Product," which is limited to (i) five specifically enumerated types of middleware (browsers, e-mail clients, multimedia viewers, instant messaging software, and voice recognition software) and (ii) other software that both (a) is or has been in the past year distributed separately from the OS in the retail, IAP, ICP, ISV, or OEM channels by Microsoft (or by another company if Microsoft acquired the product from that company) *and* (b) provides functionality similar to that of competing, non-Microsoft middleware. FJ § 7.r (JA 2854-55). Section 3.g is thus limited to those middleware products for which there is separate consumer demand.

Similarly, Microsoft's argument (MS Br. 138) that features such as HTML Help and Windows Update would be "preclude[d]" because they rely on IE is erroneous. Section 3.g requires only that end users and OEMs be able to remove end user access to the middleware product – in this case, the browser – not the APIs or code. *See* FF 183-85 (JA 2292-93); Felten Decl. ¶¶ 92, 94 (JA 13854-55). Finally, Microsoft's assertion (MS Br. 137-38) that offering an "unbinding" option for OEMs and end users for the few covered middleware products in existing operating systems would take "far longer than six months[,] would cost hundreds of millions of dollars," and would result in a "far inferior" OS cannot be reconciled with the record in this case and the district court's findings. Professor Felten's removal program for Microsoft's browser, which achieves just the type of removal of access that Microsoft would be required to provide under Section 3.g without degrading any other part of the OS, was developed in a very short time and at minimal expense. *See* FF 177, 181, 183-84 (JA 2291-93). As the district court found, "[g]iven Microsoft's special knowledge of its own products, the company is readily able to produce an improved implementation of the concept illustrated by Felten's prototype removal program." FF 182, 177 (JA 2292, 2291).

Second, Section 3.a of the decree seeks to end Microsoft's practice of using its Windows monopoly to penalize OEMs that favored Netscape and to reward those that favored Internet Explorer. It prohibits Microsoft from taking any adverse action against an OEM for dealing in a product that competes with a Microsoft product, a prohibition fully justified by the court's findings of fact. *See, e.g.*, FF 64, 115-32, 139, 175-77, 203-08, 230-41 (JA 2265, 2276-81, 2283, 2291, 2297-98, 2304-07); CL at 39-41, 44, 46 (JA 2419-21, 2424, 2426).

Microsoft attacks (MS Br. 139-40) Section 3.a.iii, which allows OEMs to make modest modifications to Windows to enable them to promote software that competes with Microsoft's. Among other things, that section prevents Microsoft from punishing OEMs that display a user interface other than the Windows desktop (provided that an icon allowing the user to access the Windows desktop is also displayed) or that configure their machines to automatically launch non-Microsoft middleware, operating systems, or applications. FJ §§ 3.a.iii(3), 3.a.iii(4) (JA 2849). Permitting alterations of this kind is necessary for alternative forms of middleware to compete for distribution, promotion, and usage sufficient to lower the applications barrier to entry.

Microsoft's opposition to Section 3.a.iii rests mainly on the premise that OEMs will act irrationally and force their customers to accept "less functional" versions of Windows (MS Br. 139), but the district court rejected those concerns in its findings of fact. Because OEMs sell computers in a highly competitive market, they are likely to make only those modifications that reflect consumer demand and increase consumer satisfaction; otherwise the OEMs will suffer lost sales and increased support costs. FF 193, 222, 410 (JA 2294, 2302, 2349). Indeed, Section 3.a.iii essentially authorizes OEMs to do what Microsoft has already permitted of users (e.g., invoke an alternate interface, change the default browser, uninstall a feature or an icon) and of selected OEMs (e.g., insert their own "splash" screens, provide Internet sign-up help). *See* FF 171, 219, 222, 223 (JA 2290, 2301-03).

Microsoft's assertion (MS Br. 139) that Section 3.a.iii would permit OEMs "to pass off altered versions of Windows to consumers as Microsoft's creation, contrary to federal copyright and trademark laws" similarly lacks merit. We agree that passing off would raise concerns under the Lanham Act (although we have not located any basis for such concerns in U.S. copyright law), but that is unlikely to occur. The alterations permitted under Section 3.a.iii(3) are a means by which OEMs could distinguish their products from those of their competitors; an OEM would not want its unique and valuable contribution to be mistaken for Microsoft's. In any event, a remedial decree ordinarily would be construed to avoid authorizing a violation of an extant federal statute. *Cf. Walsh v. Schlecht*, 429 U.S. 401, 408 (1977) (contracts construed to avoid violation of law).

Microsoft's opposition to Section 3.a.iii(4) is based on a similarly false premise. That provision prevents Microsoft from restricting OEMs from configuring Windows to "launch automatically any non-Microsoft Middleware, Operating System, or application." FJ § 3.a.iii(4) (JA 2849). Microsoft asserts that Section 3.a.iii(4) grants OEMs "unlimited rights to modify Windows in ways that transform it beyond recognition" and will lead inevitably to "the fragmentation of the Windows platform." MS Br. 140. In fact, Section 3.a.iii(4) merely allows OEMs to configure their systems to launch non-Microsoft software automatically, to insert a screen promoting their own Internet access provider during the computer's Windows boot sequence, or to make non-Microsoft middleware the default. Crucially, the provision expressly confines removal by an OEM of Windows features to removal of "the means of End-User Access for Microsoft's Middleware Product." FJ § 3.a.iii(4) (JA 2849). In other words, Section 3.a.iii(4) allows what end users have previously been permitted to do through the Windows "Add/Remove" function – to remove the icon or other means by which the end user invokes Microsoft middleware. It will not lead to fragmentation of the Windows platform because little if any underlying Windows code and no APIs will be deleted. *See* FF 165, 193 (JA 2288, 2294); Felten Decl. ¶¶ 98-102 (JA 13856-57).

Third, Section 3.f prevents Microsoft from contractually forcing OEMs and end users of Windows to take other software products, whether they want them or not, as a condition to receiving a Windows license. The district court found that Microsoft used such "contractual . . . shackles" in violation of both Section 1 and Section 2 of the Sherman Act. CL at 39-40 (JA 2419-20). Microsoft complains that this provision will forbid it from distributing upgrades, such as bug fixes and "updated versions of certain Windows components (e.g., IE and DirectX)" that Microsoft makes available from time to time. MS Br. 140. That argument ignores critical language from Section 3.f, which makes clear that the provision applies only to "any other Microsoft software product that Microsoft distributes separately from the Windows Operating System product in the retail channel or through Internet access providers, Internet content providers, ISVs or OEMs." FJ § 3.f (JA 2850).

Section 3.f. will not lead to fragmentation of the Windows platform. Microsoft says that the provision "contemplates actual removal of software code, as opposed to hiding 'End-User Access' to the functionality it provides." MS Br. 140-41. To the contrary, like Section 3.a.iii (*see* pp. 132-34, *supra*), Section 3.f prohibits Microsoft from preventing by contract only the kind of result that end users have previously been allowed to achieve through the Windows "Add/Remove" function – to remove the icon or other means by which the end user invokes certain functionality. *See* Felten Decl. ¶¶ 89, 94 (JA 13854-55); FF 165, 193 (JA 2288, 2294).

B. The District Court Did Not Err By Entering Its Decree Without A Separate Evidentiary Hearing On Remedy

The Final Judgment expressly contemplates further proceedings to determine the details of Microsoft's "proposed plan of divestiture." FJ § 1.a (JA 2846). Microsoft argues, however, that the district court erred in entering the Final Judgment without holding a separate evidentiary hearing on remedy. MS Br. 67, 125-28. A district court's refusal to hold an evidentiary hearing on equitable relief is reviewed only for abuse of discretion, *Davoll v. Webb*, 194 F.3d 1116, 1139-40 (10th Cir. 1999), and there was no abuse here. Microsoft had early notice that it might face stern remedies and had time to prepare arguments and gather evidence on the remedy issues but chose to submit only a weak counter-proposal and not to submit any sworn declarations. That was a calculated decision on its part. Although Microsoft complains about the process leading to entry of the decree, it has no one to blame but itself.

1. Microsoft cites no case for the proposition that an antitrust court commits reversible error when it fails to conduct an evidentiary hearing on remedy after an extensive trial on liability (*see* MS Br. 125-28), and there appears to be no such authority. To the contrary, in *United States v. American Tobacco Co.*, 221 U.S. 106 (1911), the Supreme Court determined that the relief must be "wider than that awarded by the lower courts," remanded the case, and directed the lower court "to hear the parties, *by evidence or otherwise,* as it may be deemed proper, for the purpose of ascertaining and determining upon some plan or method of dissolving the combination and of recreating, out of the elements now composing it, a new condition which shall be honestly in harmony with and not repugnant to the law." *Id.* at 184, 187 (emphasis added). In *National Lead*, a permanent injunction appears to have been entered without a separate evidentiary hearing on remedy. *See* 332 U.S. at 329-34. And in *Paramount Pictures*, the procedure followed by the district court was remarkably similar to that used by the district court in this case: "After a long trial, an elaborate opinion on the merits, a full discussion as to the terms of the decree, . . . the terms were finally promulgated." *United States v. Paramount Pictures, Inc.*, 334 U.S. 131, 180 (1948) (Frankfurter, J., dissenting). Although the Court remanded for further proceedings, it set aside part of the district court's decree because it did not go far enough and should have considered divestiture as a feature of the remedial decrees. *Id.* at 170-75 (majority opinion). The Court left in place most of the decree without requiring a hearing on remedy.

In a variety of other contexts, courts have rejected the argument that an evidentiary hearing is required before issuance of a permanent injunction. "[I]t simply is not true that an evidentiary hearing is always required before an injunction is issued. When the evidence presented by affidavit and other documentation clearly establish the plaintiff's right to an injunction, a hearing need not be conducted." *United States v. Prod. Plated Plastics, Inc.*, 762 F. Supp. 722, 729 (W.D. Mich. 1991), *aff'd*, 955 F.2d 45 (6th Cir. 1992). *See also Lone Star Steakhouse & Saloon, Inc. v. Alpha of Va., Inc.*, 43 F.3d 922, 938 (4th Cir. 1995); *Am. Can Co. v. Mansukhani*, 814 F.2d 421 (7th Cir. 1987) (affirming issuance of supplement to permanent injunction without conducting new evidentiary hearing based on evidence already part of record). Other courts have held that a complaining party must show prejudice to obtain reversal of a district court's decision to impose an injunction without conducting an evidentiary hearing. *See, e.g., Socialist Workers Party v. Ill. State Bd. of Elections*, 566 F.2d 586, 587 (7th Cir. 1977) (injunction for election); *Eli Lilly & Co. v. Generix Drug Sales, Inc.*, 460 F.2d 1096, 1106 (5th Cir. 1972) ("surprise alone is not a sufficient basis for appellate reversal; appellant must also show that the procedures followed resulted in prejudice" in issuance of permanent injunction after remand on basis of preliminary injunction proceedings).

Microsoft cites *United States v. Alcoa*, 91 F. Supp. 333 (S.D.N.Y. 1950), to support its argument (MS Br. 128) that divestiture may be ordered only after a protracted hearing, but that case did not purport to state a general rule. While the court in *Alcoa* did hold an evidentiary hearing, eight years and World War II had intervened since the close of the trial on liability, and the aluminum industry had been "revolutionized" in the interim. *United States v. Alcoa*, 148 F.2d 416, 445 (2d Cir. 1945).

2. Microsoft says that it needed time, discovery, and an evidentiary hearing because "no one could have imagined" (MS Br. 3) that plaintiffs would request structural relief. The district court, however, found that Microsoft's "profession of surprise" at plaintiffs' proposed dissolution remedy "is not credible." Remedy Order at 61 (JA 2843). Microsoft makes no attempt to argue that this finding is clearly erroneous, and, indeed, the finding is correct. Microsoft's suggestion that the

complaints did not "even hint" at structural relief (MS Br. 9, 128) does not square with the request for "permanent relief as is necessary and appropriate to restore competitive conditions in the markets affected by Microsoft's unlawful conduct." US Compl. § VIII, ¶ 3 (JA 191). That the complaints also prayed for other, specific relief does not restrict plaintiffs from seeking broader relief justified by the facts proved at trial. *See United States v. Ward Baking Co.*, 376 U.S. 327, 332-33 & n.3 (1964). In *American Tobacco*, the Supreme Court ordered dissolution even though the complaint had not specifically requested it. 221 U.S. at 149-50, 185-87.

Nearly a century of antitrust jurisprudence put Microsoft on notice that divestiture is an appropriate form of relief in Section 2 cases. *See, e.g., Standard Oil Co. v. United States*, 221 U.S. 1, 79 (1911); *American Tobacco*, 221 U.S. at 187-88. And the government indicated on the trial's first day, in October 1998, that an appropriate remedy would have to assure the "complete extirpation" of an unlawfully maintained monopoly. Tr. 10/19/98 am at 17 (JA 13980).

Moreover, Microsoft never denies – nor could it – that it was aware long before the Final Judgment that the court might order a structural remedy. Well before the district court issued any findings, academics (including two relied on by Microsoft (MS Br. 81)), were discussing possible structural relief.[87] So, too, was Microsoft's amicus Association for Competitive Technology (ACT), in a white paper that lists Microsoft's appellate counsel, Sidley & Austin, as an author.[88] (Microsoft

[87] *See, e.g.*, 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; John E. Lopatka & William H. Page, *A (Cautionary) Note on Remedies in the* Microsoft *Case*, ANTITRUST, Summer 1999, at 25.

[88] *Breakup and Compulsory Licensing: Remedies or Bad Medicine?*, Feb. 18, 1999, *available at* http://www.actonline.org/pubs/paper.pdf (JA 15311).

is a "member" of ACT,[89] and reportedly "helped create [ACT] on the eve of the trial." James V. Grimaldi, *Microsoft Filing Critical of Judge*, WASH. POST, Nov. 28, 2000, at E1.)

On November 5, 1999, the district court issued Findings of Fact that "gave clear warning to Microsoft that the result would likely be adverse" and that plaintiffs would propose a tough remedy. Remedy Order at 61 (JA 2843). That same day, Microsoft's general counsel acknowledged a "drumbeat" calling for a breakup.[90] The press and academics increasingly discussed possible remedies, including structural relief.[91] In early December 1999, it was publicly known that the government had retained an investment bank to "assist the division in analyzing financial aspects of the full range of potential remedies in U.S. v. Microsoft, including conduct and structural relief." Joel Brinkley, *U.S. Hires Advisory Firm in Microsoft Case*, N.Y. TIMES, Dec. 3, 1999, at C2; Rajiv Chandrasekaran, *Justice Dept. Hires Firm to Study Microsoft 'Remedies,'* WASH. POST, Dec. 3, 1999, at E3. Indeed, in January 2000, during the period of mediation between the government and Microsoft over possible remedial actions, the prospect of court-ordered divestiture was deemed sufficiently plausible by Microsoft's new CEO, Steve Ballmer, that he spoke out publicly against a breakup. *See* Steve Ballmer, *The Microsoft Suit*, WASH. POST, Jan. 24, 2000, at A20 (letter to editor). And on April 2, 2000, Bill Gates was reported as accusing the government of jeopardizing a settlement by "demanding either a breakup of our company or other extreme concessions." Joel Brinkley & Steve Lohr, *Microsoft and U.S. Unable to Reach Antitrust Accord*, N.Y. TIMES, Apr. 2, 2000, at A1; *see also* Joel Brinkley, *U.S. and 17 States Ask Judge to Cut Microsoft in 2 Parts:*

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[89] *See* http://www.actonline.org/about/good_company.asp (JA 15312-13).

[90] *See Microsoft Press Conference Re: Findings of Fact by Judge Thomas Penfield Jackson*, Nov. 5, 1999, at 15, *available at* http://www.microsoft.com/presspass/trial/nov99/11-05prconf.asp (response of William Neukom to question from Steven Levy) (JA 15315).

[91] *See, e.g.*, Joel Brinkley, *A Microsoft Remedy: Antitrust Experts Offer Prescriptions*, N.Y. TIMES, Nov. 15, 1999, at C1.

Serious Curbs Also Sought, N.Y. TIMES, Apr. 29, 2000, at A1 (quoting Ballmer as saying "[f]or *months*, the government . . . [has] been repeating that Microsoft should be broken up") (emphasis added).

When mediation failed and the court issued its Conclusions of Law on April 3, 2000 (five months after its Findings), the court made clear that entry of a decree was fast approaching. During chambers conferences the following two days, the court emphasized that it intended to complete remedy proceedings "within sixty days" (Tr. 4/4/00 at 11, 14, 19 (JA 2448, 2451, 2456)), i.e., by early June, and scheduled a "hearing on remedies" for May 24. Schedl'g Order No. 8, at 2 (Apr. 5, 2000) (JA 2471). To meet that timetable, the court ordered the government to submit a proposed remedy by April 28 and Microsoft to specify by May 10 its "counter-proposal(s)" and its "recommendations for future proceedings on the issue of remedy." *Id.*

Microsoft only briefly suggests – citing its "limited space" – that the district court promised an evidentiary hearing but then reneged. MS Br. 142. But the district court never promised an evidentiary hearing; it said only that it "assume[d] that there would be further proceedings," Tr. 4/4/00 at 8-9 (JA 2445-46), without specifying what those "further proceedings" would entail. Nor did the government request an evidentiary hearing, as Microsoft suggests. MS Br. 126; Pls.' Mem. In Supp. Of Prop. Final J. at 44 (Apr. 28, 2000) (only "appropriate" proceedings) (JA 2535). In fact, there were further, appropriate proceedings – seven weeks (and 410 pages) of pleadings (including declarations) between the April 4-5 chambers conferences and the May 24 hearing, the May 24 hearing itself, and then two more weeks (and another 135 pages) of responsive pleadings to revise and litigate the decree's terms.[92] Although the court indicated at the April 4 conference that it had

[92] *See* Pls.' Rev. Prop. Final J. (May 26, 2000); Mem. In Supp. Of Pls.' Rev. Prop. Final J. (May 26, 2000); MS's Comments On Pls.' Rev. Prop. Final J. (May 31, 2000); MS's Suppl. Offer Of Proof (May 31, 2000) (JA 2822-40); Pls.' Rev. Prop. Final J. (June 5 Redlined Version) (June 5, 2000);

considered possibly "replicat[ing] the procedure at trial with testimony in written form subject to cross-examination," it made no commitment to do so, and it continued: "The more abbreviated the process, the better I think the situation is, but I am open to suggestions." Tr. 4/4/00 at 11 (JA 2448). The district court was unmistakable on a point about which Microsoft's brief is silent: the court's intention to conclude the remedy proceedings within sixty days. The court's Scheduling Order of April 5 is unambiguous, including the scheduling of a "hearing on remedies" for May 24. Schedl'g Order No. 8, at 2 (Apr. 5, 2000) (JA 2471). Microsoft did not seek clarification of the April 5 Order or delay of the May 24 hearing.

3. On April 28, plaintiffs submitted their proposed final judgment.[93] This proposal, well grounded in the trial record and supported by six declarations, addressed the three goals of antitrust relief: "to terminate the unlawful conduct, to prevent its repetition in the future, and to revive competition in the relevant markets." Remedy Order at 63 (JA 2845); *see* pp. 120-21, *supra*. Microsoft mischaracterizes the inclusion of declarations as a concession by the government that the district court needed more information before imposing a remedy. MS Br. 126. To the contrary, the 78-day trial, more than two dozen witnesses, thousands of exhibits, and over 1,500 pages of proposed findings of fact had exhaustively explored Microsoft's conduct and its anticompetitive effects, so the need for structural relief was already clear. The government simply availed itself of the opportunity provided by the court (*see* Tr. 4/4/00 at 10-11 (JA 2447-48)) to explain fully the rationale of the proposed remedy and its feasibility. Microsoft chose not to take advantage of its similar opportunity to buttress its proposed remedy or its objections to the government's proposal.

Pls.' Summ. Resp. To MS's Comments On Rev. Prop. Final J. (June 5, 2000); MS's Reply To Pls.' Resp. To MS's Comments On Their Rev. Prop. Final J. (June 6, 2000).

[93] *See* Pls.' Prop. Final J. (Apr. 28, 2000); Pls.' Mem. In Supp. Of Prop. Final J. (Apr. 28, 2000).

4. On May 10, Microsoft urged summary rejection of the government's divestiture proposal and offered only an insubstantial counter-remedy. Microsoft spent 87 pages attacking plaintiffs' proposed divestiture and conduct remedies but did not controvert any factual assertion in plaintiffs' submission or include any declarations,[94] even though the court previously had said that "affidavits might perhaps be the least support that we would be looking for." Tr. 4/4/00 at 11 (JA 2448). Microsoft never offered the district court – nor has it offered this Court – any reason to reject a structural remedy that was not fully presented in its May 10 pleadings. Microsoft's proposed counter-remedy[95] consisted of "modest conduct" restrictions (Remedy Order at 62 (JA 2844)) that would hardly have affected its ability to engage in anticompetitive conduct. Unlike the government's proposed remedy, which satisfied the three goals of antitrust relief, Microsoft's alternative decree was "plainly inadequate in all three respects." *Id.* at 63 (JA 2845). Indeed, Microsoft conceded that its proposed remedy did nothing to restore competition. *See* MS Final Judgment Memo at 2 (requests for relief to restore competition "are unwarranted as a matter of law").

Instead of offering a serious counterproposal, Microsoft suggested more delay. On May 10, Microsoft sought a six-month delay for additional discovery without identifying what third-party discovery it desired or what evidence might take so long to adduce. Thus, notwithstanding the district court's clear intention to complete the remedy process by early June 2000, Microsoft responded with a proposal that would stretch proceedings well into 2001.

The only specific discovery Microsoft said it would conduct was to depose plaintiffs' remedy declarants. MS's Position As To Future Proceedings On The Issue Of Remedy at 4-5, 8 (May 10,

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[94] *See* MS's Mem. In Supp. Of Its Mot. For Summ. Rejection Of The Govt's Breakup Proposal (May 10, 2000); MS's Summ. Resp. To Pls.' Prop. Final J. (May 10, 2000).

[95] *See* MS's Prop. Final J. (May 10, 2000); MS's Mem. In Supp. Of Its Prop. Final J. (May 10, 2000) (MS Final Judgment Memo).

2000) (MS Future Proceedings) (JA 2648-49, 2652). Yet Microsoft made no effort to depose the declarants in the month before the May 24 hearing or afterward. Having made no such effort, Microsoft cannot now complain that the declarations were inadmissible hearsay. *See* MS Br. 127, 145. The hearsay rules apply loosely, if at all, to the district court's post-trial proceedings on remedy. *See United States v. E.I. du Pont de Nemours & Co.*, 177 F. Supp. 1, 19-20 (N.D. Ill. 1959) (admitting, over hearsay objection, report on tax consequences of government's remedy proposal), *rev'd on other grounds*, 366 U.S. 316 (1961). Moreover, the declarations in question were by expert witnesses, who may rely on hearsay in support of their opinions. *See* FED. R. EVID. 703.

In addition, under Microsoft's plan, the proposed new round of discovery was to be followed by a lengthy hearing. *See* MS Future Proceedings at 2 (JA 2646). On May 22, Microsoft filed an additional submission not called for by any outstanding court order. That submission, which could have addressed any topic, did not include any declarations either to bolster its proposed remedy or to counter the government's proposal. *See* MS's Reply In Further Supp. Of Its Mot. For Summ. Rejection Of The Govt's Breakup Proposal. The district court thus accurately characterized Microsoft's effort as a delay tactic seeking a "second trial" and "an *ex post* and *de facto* bifurcation of the case." Remedy Order at 61 (JA 2843).

5. On May 24, the court conducted its long-scheduled hearing on remedies. Microsoft initially asserted that the hearing could not address the merits of the remedy proposals. *See* Tr. 5/24/00 am at 4 (Microsoft counsel identifying the "only two matters" before the court as its motion to strike the demand for a breakup and a schedule for further proceedings) (JA 9768). The court responded by confirming that the merits would be addressed, *id.* at 5 (JA 9769), but expressly invited Microsoft "to convince me that you need more time to be able to respond" (*id.* at 36 (JA 9800)); Microsoft, however, offered no concrete reasons. At the end of the all-day hearing, the court announced that

it contemplated no further proceedings and that it would soon issue its decree. Tr. 5/24/00 pm at 33 (JA 9866). Only then did Microsoft disclose and tender a 35-page "Offer of Proof" describing the testimony concerning remedy that 16 witnesses (including 5 Microsoft employees) would give on its behalf. *Id.*; MS's Offer Of Proof (May 24, 2000) (JA 2742-76). A week later, Microsoft submitted seven additional descriptions of putative witness testimony. MS's Suppl. Offer Of Proof (May 31, 2000) (JA 2822-40). Yet even those "Offers of Proof" did not justify an evidentiary hearing. The testimony described therein was redundant of evidence Microsoft adduced during the trial, redundant of arguments regarding the need for or efficacy of divestiture Microsoft made in its May 10 and May 22 filings, or irrelevant to the issues raised by the government's remedy proposal (e.g., describing problems of Windows fragmentation when none would be created). Indeed, those unsworn, unsigned Offers of Proof were not even admissible evidence.

Far from showing that Microsoft was *unable* to get its evidence before the court, therefore, Microsoft's actions reveal its deliberate decision not to do so. Microsoft had the opportunity to "develop and present evidence" on relief (MS Br. 67, 128) but chose not to present anything significant. The district court thus did not "repudiat[e] [a] core element of due process." MS Br. 126. Rather, it was Microsoft that made a calculated decision not to take remedy seriously, not to submit affidavits or even to disclose its Offers of Proof in a timely fashion, and to push for yet more delay, even when the district court had made clear that the time for decision was at hand. Microsoft's "failure to anticipate and to prepare to meet such an eventuality gives no reason to afford it an opportunity to do so now." Remedy Order at 61 (JA 2843).

6. Faced with the substantial record before it, the government's well-supported proposal, Microsoft's lengthy arguments on the merits of dissolution, and Microsoft's facially deficient counter-remedy, the district court properly entered its decree on June 7, 2000. "No further proceedings

[were] required," *id.*, even to reject Microsoft's claim that implementing the decree would be difficult. *See Prod. Plated Plastics*, 762 F. Supp. at 731 (no need for evidentiary hearing despite defendants' claim that "it is impossible for them to implement" the decree). This was neither "astounding abdication" by the district court (MS Br. 11) nor "blind" deference to the government's proposal (*id.* at 128). Rather, "it is well settled that once the Government has successfully borne the considerable burden of establishing a violation of law, all doubts as to the remedy are to be resolved in its favor." *du Pont*, 366 U.S. at 334; *Ford Motor Co. v. United States*, 405 U.S. 562, 575 (1972).

Moreover, the district court was well within its discretion in concluding, based on its experience, that it would not be aided by dueling experts speculating on what the decree would mean for the future, Remedy Order at 62 (JA 2844), especially when the Final Judgment itself contemplates further proceedings to determine the details of a plan of reorganization. FJ § 1.a (JA 2846). The district court retains jurisdiction to "modify the judgment as necessary . . . to accommodate conditions changed with the passage of time." Remedy Order at 63 (JA 2845).

VI. JUDGE JACKSON'S OUT-OF-COURT COMMENTS DO NOT MERIT VACATING THE JUDGMENT OR REMOVING HIM FROM FURTHER PROCEEDINGS

1. Microsoft claims (MS Br. 147-49) that comments Judge Jackson made about the case in public lectures and newspaper interviews published after entry of the judgment demonstrate bias, or an appearance of bias, and are therefore grounds for disqualification under 28 U.S.C. 455. Those objections are unfounded. The Court should not take the extraordinary step of vacating the judgment or ordering the judge to recuse himself from further proceedings in the case. MS Br. 149.

Section 455 requires recusal of judges who are biased or whose "impartiality might reasonably be questioned." 28 U.S.C. 455(a), 455(b)(1). The Supreme Court has made clear, however, that the bases for recusal on those grounds are limited. First, "judicial rulings alone almost never constitute a valid basis for a bias or partiality motion." *Liteky v. United States*, 510 U.S. 540, 555 (1994). Second, "opinions formed by the judge on the basis of facts introduced or events occurring in the course of the current proceedings, or of prior proceedings, do not constitute a basis for a bias or partiality motion unless they display a deep-seated favoritism or antagonism that would make fair judgment impossible." *Id.* at 555. The four comments that Microsoft cites as a basis for recusal (MS Br. 145-46) founder on both *Liteky* rules.

The first comment (MS Br. 148) is a public statement attributed to Judge Jackson in the *Financial Times* of October 6, 2000, as follows:

> "Bill Gates is an ingenious engineer, but I don't think he is that adept at business ethics," [Judge Jackson] said. "He has not yet come to realise things he did (when Microsoft was smaller) he should not have done when he became a monopoly."

Peter Spiegel, *Microsoft Judge Defends Post-Trial Comment*, FIN. TIMES, Oct. 6, 2000, at 4. That reported post-trial statement plainly does not show "deep-seated favoritism or antagonism." *Liteky*, 510 U.S. at 555. It reflects little more than the court's ultimate ruling that, in a series of actions taken with Gates' participation and approval, Microsoft violated Sections 1 and 2 of the Sherman Act. *See id.* at 551 ("not subject to deprecatory characterization as 'bias' or 'prejudice' are opinions held by judges as a result of what they learned in earlier proceedings").

The second comment (MS Br. 148) is a passage in Brinkley and Lohr's book that begins with the authors' view that "the most damaging documents – the ones that galvanized the resolve of state and federal prosecutors – were written months after that first government [document] request arrived, months after Microsoft's leaders knew that everything they wrote was likely to wind up in prosecutors' hands." JOEL BRINKLEY & STEVE LOHR, U.S. V. MICROSOFT 6 (2000). The authors then write that Judge Jackson, who admitted those documents into evidence, likened the phenomenon to the federal prosecution of drug traffickers, who are repeatedly caught as a result of telephone wiretaps. "And yet, he said, 'they never figure out that they shouldn't be saying certain things on the phone.'" *Id.* That comparison simply notes an analogy from the judge's trial experience. It does not reflect "bias or prejudice." 28 U.S.C. 455.

The judge's apparent reference in a lecture (reported in the September 29, 2000, *Washington Post*) to Microsoft's "intransigence" as a basis for ordering structural relief also shows no bias. The remark essentially restates the court's determination, in its June 7, 2000, opinion on remedy, that a structural remedy is needed in part because Microsoft was unwilling to accept the notion that it broke the law and because it continued to engage in the sort of predatory conduct that the court found unlawful. Remedy Order at 62 (JA 2844); *see Liteky,* 510 U.S. at 550-51, 555. Contrary to Microsoft's suggestion (MS Br. 148), the fourth cited comment (stating that cameras ought to be available with, and without, light meters, BRINKLEY & LOHR, *supra,* at 263) does not refer to, much less take issue with, Justice O'Connor's concurring opinion in *Jefferson Parish,* nor does it reflect bias in any way. And the judge's "due process" remark, which Microsoft cites elsewhere in its brief (MS Br. 11), essentially restates his ruling that due process did not require additional proceedings on remedy beyond those conducted by the court. See pp. 144-45, *supra*.

Indeed, taken in their entirety, Judge Jackson's comments demonstrate neither bias nor the appearance of bias. For example, the Brinkley and Lohr book quotes the judge describing Microsoft as "a large and important company, innovative and admirable in a lot of ways." BRINKLEY & LOHR, *supra,* at 277-78. The *Washington Post* article cited by Microsoft says: "But Jackson said he held no ill will against the company or its co-founder and chairman, Bill Gates. 'I have never conceived of this case as a contest of wills between me and Mr. Gates,' he said." James V. Grimaldi, *Microsoft Judge Says Ruling at Risk,* WASH. POST, Sept. 29, 2000, at E1. And the *Financial Times* article relied on by Microsoft reports that the judge made clear he was still "'full of admiration' for

Microsoft's accomplishments in the software industry." To be sure, the judge did not allow that admiration to prevent him from fairly weighing the evidence and concluding that Microsoft had violated the antitrust laws, but that is the mark of impartiality. As Judge Learned Hand observed, if an examination of the evidence results in "bias," it "is precisely the bias which all evidence is intended to create and which it should create, if a court does its duty." *Alcoa*, 148 F.2d at 433. That is, of course, not "bias" within the meaning of Section 455.

2. Microsoft contends that Judge Jackson's statements are contrary to Canon 3A(6) of the Code of Conduct for United States Judges, 175 F.R.D. 363 (1998), which provides:

> A judge should avoid public comment on the merits of a pending or impending action, requiring similar restraint by court personnel subject to the judge's direction and control. This proscription does not extend to public statements made in the course of the judge's official duties, to the explanation of court procedures, or to a scholarly presentation made for the purposes of legal education.

175 F.R.D. at 367. Microsoft also asserts that Judge Jackson considered ex parte communications in violation of Canon 3A(4) because of his "apparent decision to read letters he received from the public during the trial" (MS Br. 149, citing DARTMOUTH ALUMNI MAG. Nov./Dec. 2000, at 44), but the cited article does not say that Judge Jackson considered the letters in connection with any aspect of the case. Without proof of judicial "bias or prejudice" within the meaning of 28 U.S.C. 455, a violation of either part of the Canon does not justify reversal of the judgment or recusal of the judge from subsequent proceedings. *See United States v. Haldeman*, 559 F.2d 31, 132-34 & n.297 (D.C. Cir. 1976) (en banc); *see also United States v. Barry*, 961 F.2d 260, 263 (D.C. Cir. 1992); *In re Barry,* 946 F.2d 913, 914 (D.C. Cir. 1991). As the introductory Commentary to the Code notes, "the purpose of the Code would be subverted if the Code were invoked by lawyers for mere tactical advantage in a proceeding." 175 F.R.D. at 365.

3. There is no need for the Court to interpret Canon 3A(6). Should it choose to do so as part of its supervisory function to guide the course of future proceedings, however, the Court may wish to take into account the following points. First, Canon 3A(6) contains an express proviso that its "proscription does not extend to public statements made in the course of the judge's official duties, to the explanation of court procedures, or to a scholarly presentation made for the purposes of legal education." 175 F.R.D. at 367. After *Barry*, the Canon was revised to add the "legal education" exception. *Report of the Judicial Conference Committee on Codes of Conduct* at 7 (Sept. 1992). At least three of the judge's public lectures are, by Microsoft's own description, "presentation[s] made for the purposes of legal education": "an antitrust seminar in Washington, DC," "a law school conference on Capitol Hill," and "a conference in Amsterdam sponsored by the International Bar Association." MS Br. 145-46. Two other public lectures that Microsoft mentions – speeches at Dartmouth College and St. Mary's College of Maryland (MS Br. 146) – appear from the press reports (Microsoft has not provided actual texts) to have been efforts to teach students about the law. As to the balance of the cited remarks, the introductory Commentary to the Code emphasizes that "[t]he Canons are rules of reason" and that the overarching purpose of all the canons is preservation of "[t]he integrity and independence of judges." 175 F.R.D. at 364, 370-71. Judge Jackson demonstrated that integrity and independence in his conduct of the trial.

Second, although wisdom counsels judges to avoid public comment on a pending case, *see Barry*, 961 F.2d at 263, Canon 3A(6) and its Commentary expressly contemplate that a judge may perceive a public benefit in commenting on judicial matters of general concern. Questions of interpreting the Canons ordinarily do not arise in the context of an appellate court's sitting in review of a prior judicial decision. Nevertheless, if this Court were to conclude that such guidance is appropriate, it could readily provide the necessary direction to the judge for conducting further proceedings. Such prospective judicial administration should not affect the outcome of this appeal because the remarks cited by Microsoft provide no reason to doubt Judge Jackson's impartiality.

CONCLUSION

The judgment of the district court should be affirmed.

Respectfully submitted.

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ADDENDUM A

STATUTES AND REGULATIONS

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17 U.S.C. §101

* * *

A "derivative work" is a work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted. A work consisting of editorial revisions, annotations, elaborations, or other modifications which, as a whole, represent an original work of authorship, is a "derivative work".

* * *

17 U.S.C. §102(a)

(a) Copyright protection subsists, in accordance with this title, in 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. Works of authorship include the following categories:

(1) literary works;

(2) musical works, including any accompanying words;

(3) dramatic works, including any accompanying music;

(4) pantomimes and choreographic works;

(5) pictorial, graphic, and sculptural works;

(6) motion pictures and other audiovisual works;

(7) sound recordings; and

(8) architectural works.

17 U.S.C. §106

Exclusive rights in copyrighted works

Subject to sections 107 through 121, 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.

28 U.S.C. §455

Disqualification of justice, judge, or magistrate

(a) Any justice, judge, or magistrate of the United States shall disqualify himself in any proceeding in which his impartiality might reasonably be questioned.

(b) He shall also disqualify himself in the following circumstances:

(1) Where he has a personal bias or prejudice concerning a party, or personal knowledge of disputed evidentiary facts concerning the proceeding;

(2) Where in private practice he served as lawyer in the matter in controversy, or a lawyer with whom he previously practiced law served during such association as a lawyer concerning the matter, or the judge or such lawyer has been a material witness concerning it;

(3) Where he has served in governmental employment and in such capacity participated as counsel, adviser or material witness concerning the proceeding or expressed an opinion concerning the merits of the particular case in controversy;

(4) He knows that he, individually or as a fiduciary, or his spouse or minor child residing in his household, has a financial interest in the subject matter in controversy or in a party to the proceeding, or any other interest that could be substantially affected by the outcome of the proceeding;

(5) He or his spouse, or a person within the third degree of relationship to either of them, or the spouse of such a person:

(i) Is a party to the proceeding, or an officer, director, or trustee of a party;

(ii) Is acting as a lawyer in the proceeding;

(iii) Is known by the judge to have an interest that could be substantially affected by the outcome of the proceeding;

(iv) Is to the judge's knowledge likely to be a material witness in the proceeding.

(c) A judge should inform himself about his personal and fiduciary financial interests, and make a reasonable effort to inform himself about the personal financial interests of his spouse and minor children residing in his household.

(d) For the purposes of this section the following words or phrases shall have the meaning indicated:

(1) "proceeding" includes pretrial, trial, appellate review, or other stages of litigation;

(2) the degree of relationship is calculated according to the civil law system;

(3) "fiduciary" includes such relationships as executor, administrator, trustee, and guardian;

(4) "financial interest" means ownership of a legal or equitable interest, however small, or a relationship as director, adviser, or other active participant in the affairs of a party, except that:

(i) Ownership in a mutual or common investment fund that holds securities is not a "financial interest" in such securities unless the judge participates in the management of the fund;

(ii) An office in an educational, religious, charitable, fraternal, or civic organization is not a "financial interest" in securities held by the organization;

(iii) The proprietary interest of a policyholder in a mutual insurance company, of a depositor in a mutual savings association, or a similar proprietary interest, is a "financial interest" in the organization only if the outcome of the proceeding could substantially affect the value of the interest;

(iv) Ownership of government securities is a "financial interest" in the issuer only if the outcome of the proceeding could substantially affect the value of the securities.

(e) No justice, judge, or magistrate shall accept from the parties to the proceeding a waiver of any ground for disqualification enumerated in subsection (b). Where the ground for disqualification arises only under subsection (a), waiver may be accepted provided it is preceded by a full disclosure on the record of the basis for disqualification.

(f) Notwithstanding the preceding provisions of this section, if any justice, judge, magistrate, or bankruptcy judge to whom a matter has been assigned would be disqualified, after substantial judicial time has been devoted to the matter, because of the appearance or discovery, after the matter was assigned to him or her, that he or she individually or as a fiduciary, or his or her spouse or minor child residing in his or her household, has a financial interest in a party (other than an interest that could be substantially affected by the outcome), disqualification is not required if the justice, judge, magistrate, bankruptcy judge, spouse or minor child, as the case may be, divests himself or herself of the interest that provides the grounds for the disqualification.

175 F.R.D. 363

CODE OF CONDUCT FOR UNITED STATES JUDGES [FN1]

Introduction

This Code applies to United States Circuit Judges, District Judges, Court of International Trade Judges, Court of Federal Claims Judges, Bankruptcy Judges, and Magistrate Judges. Certain provisions of this Code apply to special masters and commissioners as indicated in the "Compliance" section. In addition, the Tax Court, Court of Veterans Appeals, and Court of Appeals for the Armed Forces have adopted this Code. Persons to whom the Code applies must arrange their affairs as soon as reasonably possible to comply with the Code and should do so in any event within one year of appointment.

The Judicial Conference has authorized its Committee on Codes of Conduct to render advisory opinions concerning the application and interpretation of this Code only when requested by a judge to whom this Code applies. Requests for opinions and other questions [FN2] concerning this Code and its applicability should be addressed to the Chairman of the Committee on Codes of Conduct as follows:

Chairman, Committee on Codes of Conduct

c/o General Counsel
Administrative Office of the United States Courts
One Columbus Circle, N.E.

Washington, D.C. 20544
(202) 273-1100

[FN1]. The Code of Conduct for United States Judges was initially adopted by the Judicial Conference on April 5, 1973, and was known as the "Code of Judicial Conduct for United States Judges." At its March 1987 session, the Judicial Conference deleted the word "Judicial" from the name of the Code. Substantial revisions to the Code were adopted by the Judicial Conference at its September 1992 session. Section C. of the Compliance section, following the code, was revised at the March 1996 Judicial Conference. Canons 3C(3)(a) and 5C(4) were revised at the September 1996 Judicial Conference.

[FN2]. Procedural questions may be addressed to: Office of the General Counsel, Administrative Office of the United States Courts, Thurgood Marshall Federal Judiciary Building, Washington, D.C., 20544, (202-273-1100).

CANON 3

A JUDGE SHOULD PERFORM THE DUTIES OF THE OFFICE IMPARTIALLY AND DILIGENTLY

The judicial duties of a judge take precedence over all other activities. In performing the duties prescribed by law, the judge should adhere to the following standards:

A. Adjudicative Responsibilities.

(1) A judge should be faithful to and maintain professional competence in the law, and should not be swayed by partisan interests, public clamor, or fear of criticism.

(2) A judge should hear and decide matters assigned, unless disqualified, and should maintain order and decorum in all judicial proceedings.

(3) A judge should be patient, dignified, respectful, and courteous to litigants, jurors, witnesses, lawyers, and others with whom the judge deals in an official capacity, and should require similar conduct of those subject to the judge's control, including lawyers to the extent consistent with their role in the adversary process.

(4) A judge should accord to every person who is legally interested in a proceeding, or the person's lawyer, full right to be heard according to law, and, except as authorized by law, neither initiate nor consider ex parte communications on the merits, or procedures affecting the merits, of a pending or impending proceeding. A judge may, however, obtain the advice of a disinterested expert on the law applicable to a proceeding before the judge if the judge gives notice to the parties of the person consulted and the substance of the advice, and affords the parties reasonable opportunity to respond. A judge may, with consent of the parties, confer separately with the parties and their counsel in an effort to mediate or settle pending matters.

(5) A judge should dispose promptly of the business of the court.

(6) A judge should avoid public comment on the merits of a pending or impending action, requiring similar restraint by court personnel subject to the judge's direction and control. This proscription does not extend to public statements made in the course of the judge's official duties, to the explanation of court procedures, or to a scholarly presentation made for purposes of legal education.

B. Administrative Responsibilities.

(1) A judge should diligently discharge the judge's administrative responsibilities, maintain professional competence in judicial administration, and facilitate the performance of the administrative responsibilities of other judges and court officials.

(2) A judge should require court officials, staff, and others subject to the judge's direction and control, to observe the same standards of fidelity and diligence applicable to the judge.

(3) A judge should initiate appropriate action when the judge becomes aware of reliable evidence indicating the likelihood of unprofessional conduct by a judge or lawyer.

(4) A judge should not make unnecessary appointments and should exercise that power only on the basis of merit, avoiding nepotism and favoritism. A judge should not approve compensation of appointees beyond the fair value of services rendered.

(5) A judge with supervisory authority over other judges should take reasonable measures to assure the timely and effective performance of their duties.

C. Disqualification.

(1) A judge shall disqualify himself or herself in a proceeding in which the judge's impartiality might reasonably be questioned, including but not limited to instances in which:

(a) the judge has a personal bias or prejudice concerning a party, or personal knowledge of disputed evidentiary facts concerning the proceeding;

(b) the judge served as lawyer in the matter in controversy, or a lawyer with whom the judge previously practiced law served during such association as a lawyer concerning the matter, or the judge or such lawyer has been a material witness;

(c) the judge knows that, individually or as a fiduciary, the judge or the judge's spouse or minor child residing in the judge's household, has a financial interest in the subject matter in controversy or in a party to the proceeding, or any other interest that could be affected substantially by the outcome of the proceeding;

(d) the judge or the judge's spouse, or a person related to either within the third degree of relationship, or the spouse of such a person:

(i) is a party to the proceeding, or an officer, director, or trustee of a party;

(ii) is acting as a lawyer in the proceeding;

(iii) is known by the judge to have an interest that could be substantially affected by the outcome of the proceeding; or

(iv) is to the judge's knowledge likely to be a material witness in the proceeding.

(e) the judge has served in governmental employment and in such capacity participated as counsel, advisor, or material witness concerning the proceeding or has expressed an opinion concerning the merits of the particular case in controversy.

(2) A judge should keep informed about the judge's personal and fiduciary financial interests, and make a reasonable effort to keep informed about the personal financial interests of the judge's spouse and minor children residing in the judge's household.

(3) For the purposes of this section:

(a) the degree of relationship is calculated according to the civil law system; the following relatives are within the third degree of relationship: parent, child, grandparent, grandchild, great grandparent, great grandchild, sister, brother, aunt, uncle, niece and nephew; the listed relatives include whole and half blood relatives and most step relatives;

(b) "fiduciary" includes such relationships as executor, administrator, trustee, and guardian;

(c) "financial interest" means ownership of a legal or equitable interest, however small, or a relationship as director, advisor, or other active participant in the affairs of a party, except that:

(i) ownership in a mutual or common investment fund that holds securities is not a "financial interest" in such securities unless the judge participates in the management of the fund;

(ii) an office in an educational, religious, charitable, fraternal, or civic organization is not a "financial interest" in securities held by the organization;

(iii) the proprietary interest of a policy holder in a mutual insurance company, or a depositor in a mutual savings association, or a similar proprietary interest, is a "financial interest" in the organization only if the outcome of the proceeding could substantially affect the value of the interest;

(iv) ownership of government securities is a "financial interest" in the issuer only if the outcome of the proceeding could substantially affect the value of the securities.

(d) "proceeding" includes pretrial, trial, appellate review, or other stages of litigation.

(4) Notwithstanding the preceding provisions of this Canon, if a judge to whom a matter has been assigned would be disqualified, after substantial judicial time has been devoted to the matter, because of the appearance or discovery, after the matter was assigned to him or her, that he or she individually or as a fiduciary, or his or her spouse or minor child residing in his or her household, has a financial interest in a party (other than an interest that could be substantially affected by the outcome), disqualification is not required if the judge, spouse or minor child, as the case may be, divests himself or herself of the interest that provides the grounds for the disqualification.

D. Remittal of Disqualification.

A judge disqualified by the terms of Canon 3C(1), except in the circumstances specifically set out in subsections (a) through (e), may, instead of withdrawing from the proceeding, disclose on the record the basis of disqualification. If the parties and their lawyers after such disclosure and an opportunity to confer outside of the presence of the judge, all agree in writing or on the record that the judge should not be disqualified, and the judge is then willing to participate, the judge may participate in the proceeding. The agreement shall be incorporated in the record of the proceeding.

COMMENTARY

Canon 3A(3). The duty to hear all proceedings fairly and with patience is not inconsistent with the duty to dispose promptly of the business of the court. Courts can be efficient and businesslike while being patient and deliberate.

The duty under Canon 2 to act in a manner that promotes public confidence in the integrity and impartiality of the judiciary applies to all the judge's activities, including the discharge of the judge's adjudicative and administrative responsibilities. For example, the duty to be respectful of others includes the responsibility to avoid comment or behavior that can reasonably be interpreted as manifesting prejudice or bias towards another on the basis of personal characteristics like race, sex, religion, or national origin.

Canon 3A(4). The proscription against communications concerning a proceeding includes communications from lawyers, law teachers, and other persons who are not participants in the proceeding, except to the limited extent permitted. It does not preclude a judge from consulting with other judges, or with court personnel whose function is to aid the judge in carrying out adjudicative responsibilities. A judge should make reasonable efforts to ensure that this provision is not violated through law clerks or other staff personnel.

An appropriate and often desirable procedure for a court to obtain the advice of a disinterested expert on legal issues is to invite the expert to file a brief amicus-curiae.

Canon 3A(5). In disposing of matters promptly, efficiently and fairly, a judge must demonstrate due regard for the rights of the parties to be heard and to have issues resolved without unnecessary cost or delay. A judge should monitor and supervise cases so as to reduce or eliminate dilatory practices, avoidable delays and unnecessary costs. A judge should encourage and seek to facilitate settlement, but parties should not feel coerced into surrendering the right to have their controversy resolved by the courts.

Prompt disposition of the court's business requires a judge to devote adequate time to judicial duties, to be punctual in attending court and expeditious in determining matters under submission, and to insist that court officials, litigants and their lawyers cooperate with the judge to that end.

Canon 3A(6). The admonition against public comment about the merits of a pending or impending action continues until completion of the appellate process. If the public comment involves a case from the judge's own court, particular care should be taken that the comment does not denigrate public confidence in the integrity and impartiality of the judiciary in violation of Canon 2A. This provision does not restrict comments about proceedings in which the judge is a litigant in a personal capacity, but in mandamus proceedings when the judge is a litigant in an official capacity, the judge should not comment beyond the record.

"Court personnel" does not include the lawyers in a proceeding before a judge. The conduct of lawyers is governed by the rules of professional conduct applicable in the various jurisdictions.

ADDENDUM B

INDEX TO THE DISTRICT COURT'S FINDINGS OF FACT

ADDENDUM C

WITNESSES, DEPONENTS, AND OTHERS NAMED IN THIS BRIEF

Name	Title or Position
Allchin, James	Senior Vice President, Personal and Business Systems Group, Microsoft Corp.
Andreessen, Marc	Executive Vice President, Products and Marketing, Netscape Communications Corp.
Barck, Russell	Business Developer, Intel Corp.
Barksdale, James	Former President and CEO, Netscape Communications Corp.
Barrett, Phillip	Senior Vice President, Media Technologies Group, RealNetworks, and a former Microsoft employee.
Case, Steve	Chairman and CEO, America Online Inc.
Chase, Brad	Vice President, Marketing and Software Developer Relations for Personal and Business Systems Group, Microsoft Corp.
Clark, James	Former CEO, Netscape Communications Corp.
Colburn, David	Senior Vice President, Business Affairs, America Online Inc.
Croll, Brian	Director, Product Marketing for the Solaris Operating System, Sun Microsystems, Inc.
Currie, Peter	Former Chief Financial Officer, Netscape Communications Corp.
Decker, Stephen	Director, Software Procurement, Compaq Computer Corp.
Engstrom, Eric	General Manager, Windows Client and Collaboration Division, Multimedia, Microsoft Corp.
Farber, David	Alfred Fitler Moore Professor of Telecommunication Systems, Moore School of Engineering, University of Pennsylvania
Felten, Edward	Assistant Professor of Computer Science, Princeton University
Fisher, Frank	Professor of Economics, Massachusetts Institute of Technology, and Director, National Bureau of Economic Research

Gates, Bill	President and CEO, Microsoft Corp.
Gosling, James	Chief Scientist of Java Software Division, Vice President and Sun Fellow, Sun Microsystems Inc.
Harris, William	CEO, Intuit Inc.
Jacobsen, Bruce	Chief Operating Officer and President, RealNetworks Inc., and a former Microsoft employee.
Jones, Chris	Product Unit Manager of the Internet Explorer Team, Microsoft Corp.
Kanicki, Joseph	Senior Manager in Worldwide Procurement, Dell Computer Corp.
Kannegaard, Jon	Vice President of Java Platform Products, Sun Microsystems Inc.
Kempin, Joachim	Senior Vice President of OEM Sales Group, Microsoft Corp.
Kies, Jon	Senior Product Manager for Packard Bell, NEC Inc.
Maritz, Paul	Group Vice President, Platforms and Applications, Microsoft Corp.
McGeady, Steven	Vice President in the Content Group, Intel Corp.
Mehdi, Yusuf	Director of Marketing, Internet and Applications Client Groups, Microsoft Corp.
Mehta, Kumar	Research manager for Internet Client and Collaboration Division, Microsoft Corp., reported to Mehdi and Chase.
Muglia, Robert	Senior Vice President of Application and Tools Group, Microsoft Corp.
Myhrvold, Cameron	Vice President of the Internet Customer Unit, Strategic Relationships, Microsoft Corp.
Norris, Garry	Former Program Director of Software Strategy and Strategic Relations, IBM PC Company.
Phillips, Chris	Business Development Manager, Microsoft Corp.
Popov, Michael	Vice President and COO of Staff Operations, Sun Microsystems Inc.
Reardon, Thomas	Program Manager in the Interactive Media Group, Microsoft Corp.

Romano, John	Operating Manager for the Asia Pacific Region, Home Products Division, Hewlett Packard Corp.
Rose, John	Former Senior Vice President and General Manager, Enterprise Computing Group, Compaq Computer Corp.
Rosen, Daniel	General Manager of New Technology, Microsoft Corp.
Sasaki, Curtis	Group Marketing Manager for Consumer and Embedded Technologies, Sun Microsystems Inc.
Schaaff, Timothy	Senior Director of the Interactive Media Group, Apple Computer Corp.
Schiller, Phillip	Vice President of Worldwide Product Marketing, Apple Computer Corp.
Schmalensee, Richard	Gordon Y. Billard Professor of Economics and Dean, MIT Sloan School of Management.
Schuler, Barry	President of the Interactive Services Group, America Online, Inc.
Silverberg, Brad	Former Senior Vice President of the Applications and Internet Client Group, Microsoft Corp.
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Soyring, John	Director of Network Computing Software Services, IBM Corp.
Sparks, Bryan	President and CEO, Caldera Corp.
Sullivan, Robert	Director of Content Technology, Intel Corp.
Tevanian, Avadis	Senior Vice President of Software Engineering, Apple Computer Corp.
Vesey, Scott	Windows Web Browser Product Manager, The Boeing Company
Von Holle, James	Director of Software and Internet Services, Gateway 2000.
Warren-Boulton, Frederick	Principal with MiCRA (Microeconomic Consulting and Research Associates Inc.).
Weadock, Glenn	President, Independent Software Inc.
Whittier, Ronald	General Manager of the Content Group, Intel Corp.

Wildfeuer, Christian	Microsoft employee with responsibility for running marketing focus groups.

CERTIFICATE OF SERVICE

I hereby certify that on this 9th day of February, 2001, I caused two copies of the foregoing BRIEF FOR APPELLEES UNITED STATES AND THE STATE PLAINTIFFS to be served, as follows:

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