FINAL VERSION

SCHEDULED FOR ORAL ARGUMENT ON NOVEMBER 4, 2003

IN THE

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 02-7155

COMMONWEALTH OF MASSACHUSETTS,

Plaintiff-Appellant,

—v.—

MICROSOFT CORPORATION,

Defendant-Appellee.

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

BRIEF FOR APPELLEE MICROSOFT CORPORATION

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Original Version: June 18, 2003
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CERTIFICATE AS TO PARTIES, RULINGS AND RELATED CASES

A. Parties, Intervenors and *Amici Curiae*

Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure and D.C. Circuit Rule 26.1, appellee Microsoft Corporation ("Microsoft") certifies that it has no corporate parents and that no publicly-held company owns 10% or more of Microsoft's stock.

Except for the following, all parties, intervenors and *amici* appearing before the District Court and this Court are listed in the Brief for Plaintiffs-Appellants.

1. Intervenors

In 1998, the following media organizations were permitted to intervene in the District Court for the limited purpose of enforcing 15 U.S.C. § 30: Bloomberg News; The New York Times Co.; Reuters America, Inc.; San Jose Mercury News, Inc.; The Seattle Times; ZDNET; and ZDTV, L.L.C. In 1999, Bristol Technology, Inc. was permitted to intervene in the District Court for the limited purpose of requesting access to documents produced in discovery.

2. *Amici Curiae*

In 1999 and 2000, the following persons were permitted to participate as *amici curiae* in the District Court: Association for Competitive Technology, Robert H. Bork, the Computer and Communications Industry Association, Lawrence Lessig, Robert E. Litan and the Software and Information Industry Association.

The Computer and Communications Industry Association, the Project to Promote Competition & Innovation in the Digital Age and the Software and Information Industry Association have filed with this Court a brief as *amici curiae* in support of appellants in this appeal.

B. Rulings under Review

References to the rulings at issue appear in the Brief for Plaintiffs-Appellants.

C. Related Cases

A related case is currently before this Court in No. 03-5030. On November 12, 2002, the District Court entered a Final Judgment in *United States* v. *Microsoft Corp*., No. 98-1232, 2002 WL 31654530 (D.D.C. Nov. 12, 2002). The relevant opinions of the District Court are reported as *United States* v. *Microsoft Corp*., 215 F. Supp. 2d 1 (D.D.C. 2002), and *United States* v. *Microsoft Corp*., 231 F. Supp. 2d 144, 208 (D.D.C. 2002). On January 11, 2003, the District Court denied a motion by the Computer and Communications Industry Association ("CCIA") and the Software and Information Industry Association ("SIIA") to intervene for purposes of appealing the Final Judgment. The District Court's January 11 order is reported as *United States* v. *Microsoft Corp*., No. 98-1232, 2003 WL 262324 (D.D.C. Jan. 11, 2003). CCIA and SIIA have appealed the denial of their motion for intervention and the entry of Final Judgment.

This case and a related case were previously before this Court in Nos. 00-5212 and 00-5213, which were consolidated on appeal. On June 7, 2000, the District Court entered a Final Judgment in *United States* v. *Microsoft Corp*. 97 F. Supp. 2d 59 (D.D.C. 2000). On June 28, 2001, this Court affirmed in part, reversed in part and remanded in part. This Court's decision is reported as *United States* v. *Microsoft Corp.*, 253 F.3d 34 (D.C. Cir.) (en banc), *cert. denied*, 534 U.S. 952 (2001).

This case and a related case were also previously before this Court in Nos. 98-5399 and 98-5400, which were consolidated on appeal. On August 10, 1998, various media organizations sought permission to attend pre-trial depositions pursuant to 15 U.S.C. § 30. The District Court granted their motion. On January 29, 1999, this Court affirmed. This Court's decision is reported as *United States* v. *Microsoft Corp.*, 165 F.3d 952 (D.C. Cir. 1999).

No other related cases are pending in this Court or any other court.

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(Authorities on which Microsoft chiefly relies are marked with asterisks.)

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GLOSSARY

"APIs"	Application Programming Interfaces.
"Apple"	Apple Computer, Inc.
"Beta release"	A version of a software product provided to third parties (called "beta testers") to enable them to test the product in real-world situations prior to the commercial release of the product.
"CCIA"	The Computer & Communications Industry Association.
"CLR"	Common Language Runtime. A component of Microsoft's new .NET Framework
"Consent Decree"	Final judgment entered in *United States* v. *Microsoft Corp.*, No. 98-1232 (CKK), on November 12, 2002 and reported at 2002 WL 31654530 (D.D.C. Nov. 12, 2002).
"FF"	Findings of fact issued by the District Court on November 5, 1999 following the liability phase and reported at 84 F. Supp. 2d 9 (D.D.C. 1999).
"HTML"	HyperText Mark-up Language. HTML is the language used to create documents (or Web sites) on the World Wide Web.
"IAPs"	Internet Access Providers. IAPs provide consumers with a connection to the Internet, with or without their own proprietary content.
"IE"	Internet Explorer.
"Intel"	Intel Corp.
"ISVs"	Independent Software Vendors. ISVs are entities other than Microsoft that are engaged in the development or marketing of software products.
"JVM"	Java Virtual Machine.
"Litigating States"	California, Connecticut, Florida, Iowa, Kansas, Massachusetts, Minnesota, Utah, West Virginia and the District of Columbia. The Litigating States declined to join the settlement negotiated by the United States and lead counsel for the States.

"Mass. Br."	Brief for Plaintiffs-Appellants.
"MDPs"	Market Development Programs or Market Development Allowances. These are discounts Microsoft offers to OEMs on their Windows royalties to encourage them to promote and improve Windows-based PCs.
"Microsoft"	Microsoft Corporation.
"MS"	Microsoft.
"OEMs"	Original Equipment Manufacturers. OEMs are manufacturers of personal computers.
"Office"	Microsoft Office. Office is a suite of business productivity applications developed by Microsoft that includes, among other things, Microsoft Excel spreadsheet software and Microsoft Word word processing software.
"OS"	Operating System.
"Netscape"	Netscape Communications Corp.
"PC"	Personal Computer.
"ProComp"	The Project to Promote Competition & Innovation in the Digital Age.
"Red Hat"	Red Hat, Inc. Red Hat distributes a version of the Linux operating system with various features added.
"Settling States"	Illinois, Kentucky, Louisiana, Maryland, Michigan, New York, North Carolina, Ohio and Wisconsin. The Settling States joined the United States in the settlement with Microsoft.
"SIIA"	The Software & Information Industry Association.
"SPR"	Litigating States' Proposed Remedy.
"Sun"	Sun Microsystems, Inc.

STATEMENT OF THE ISSUE

Whether the District Court properly exercised its discretion in entering a remedy tailored to the limited ground of liability upheld by this Court.

STATEMENT OF THE CASE

A. Introduction

This case is before the Court a second time. On remand, the District Court carefully applied the guidance of this Court and the general law of antitrust remedies to the extensive record before it and entered a decree that effectively addresses the liability determinations affirmed on appeal. The District Court fully explained its reasoning and the facts relevant to relief in a comprehensive opinion with abundant citations to case law and the evidentiary record.

In the face of such a well-grounded decision, Massachusetts—the lone plaintiff still litigating the issue of relief—resorts to distortion of the record and the District Court's decision, to talismanic invocation of one sentence from this Court's opinion regarding the objectives of relief and to the false contention that the decree entered by the District Court lacked evidentiary support and rested solely on an "unspoken" presumption.[1] Massachusetts' brief reads like a trial brief, restating factual arguments that were rejected by the District Court as unsupported by, or contrary to, the evidence. Indeed, Massachusetts largely ignores the District Court's findings of fact, instead repeating its own proposed—and rejected—findings.

Every other State that litigated the question of relief has since accepted the District Court's decree. Only Massachusetts continues to pursue different relief that would benefit certain

[1] After appellants filed their opening brief, Microsoft and West Virginia reached a settlement of West Virginia's claims in this action as part of a broader settlement that includes a related action pending in West Virginia state court. Pursuant to that settlement, West Virginia has agreed to dismiss its appeal in this action.

of Microsoft's competitors but not consumers. The relief that Massachusetts seeks is so extreme that its own economist would not support several key aspects of it. For example, Massachusetts continues to insist that the only appropriate remedy for the "commingling" violation affirmed by this Court is a requirement that Microsoft engage in what is almost certainly an impossible task: completely redesign Windows so that the software code for all Windows components that fall within an exceedingly broad definition of "middleware" can be removed from the operating system without degrading its other functionalities. Both the United States—the party charged with enforcement of the Sherman Act—and the nine States that joined the negotiated Consent Decree rejected this proposed remedy. In fact, at all earlier stages of this litigation, no plaintiff ever sought removal of software code from Windows, only removal of end-user access to functionality defined as "middleware." Massachusetts alone now asks this Court for relief that it previously disavowed and that the District Court found to be harmful to consumers, other software developers and the PC industry.

Contrary to Massachusetts' assertion, the District Court predicated its decision on the evidence before it, not a presumption. To ensure that a single decree would govern its business, Microsoft proposed that the District Court enter the Consent Decree negotiated by the United States and nine States as relief on the claims of the States that refused to join that settlement. That Consent Decree went well beyond an injunction against continuation of the conduct held to be anticompetitive. As the plaintiffs in this case, the States bore the burden of proving the appropriateness of further relief. To the limited extent that they satisfied that burden, the District Court granted such relief.

B. Prior Proceedings in the District Court

On May 18, 1998, the United States and a group of States filed separate complaints alleging antitrust violations by Microsoft. The States (California, Connecticut, Florida, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, New Mexico, New York, North Carolina, Ohio, South Carolina, Utah, West Virginia, Wisconsin and the District of Columbia) asserted claims under both federal and state antitrust law, suing as *parens patriae* on behalf of the general welfare and economy of their States.

These two cases were consolidated "for all purposes." J.A. 4252. Following a bench trial in which the United States took the lead on behalf of all plaintiffs, the District Court (Hon. Thomas Penfield Jackson) held that Microsoft unlawfully (i) maintained a monopoly in Intel-compatible PC operating systems in violation of Section 2 of the Sherman Act, (ii) attempted to monopolize "Internet browsers" in violation of Section 2, and (iii) tied IE to Windows in violation of Section 1. *United States* v. *Microsoft Corp.*, 87 F. Supp. 2d 30, 35 (D.D.C. 2000). The District Court further held, without state-specific analysis, that Microsoft violated the state-law analogs to Sections 1 and 2 of the Sherman Act. *Id*. at 54-55. For relief, the District Court ordered the division of Microsoft into two companies as well as numerous conduct remedies. *United States* v. *Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000).

C. This Court's June 2001 Decision

Sitting *en banc*, this Court affirmed in part, reversed in part and remanded the case to another District Judge. *United States* v. *Microsoft Corp.*, 253 F.3d 34, 118-19 (D.C. Cir.), *cert. denied*, 534 U.S. 952 (2001). The Court affirmed the District Court's conclusion that Microsoft had unlawfully maintained a monopoly in Intel-compatible PC operating systems by engaging in twelve specific anticompetitive acts, but reversed the District Court's conclusions that (i) eight other acts were anticompetitive and (ii) Microsoft's overall "course of conduct" violated Section 2. *Id*. at 51-78. The Court also rejected the District Court's conclusions that Microsoft had unlawfully attempted to monopolize "Internet browsers" and that Microsoft's alleged tying of IE to Windows was *per se* unlawful. *Id*. at 80-97. The Court remanded the tying claim for a new trial under a rule of reason analysis that took appropriate account of the special characteristics of software that serves as a platform for applications. In rejecting the *per se* rule, this Court stated:

> [B]ecause of the pervasively innovative character of platform software markets, tying in such markets may produce efficiencies . . . . For example, the bundling of a browser with OSs enables an independent software developer to count on the presence of the browser's APIs, if any, on consumers' machines and thus to omit them from its own package.

Id. at 93.

The Court vacated the District Court's remedial decree for three independent reasons: (i) the District Court failed to hold a remedies-specific evidentiary hearing; (ii) the District Court failed to provide an adequate explanation for its decree; and (iii) this Court had substantially narrowed the scope of Microsoft's liability. *Id*. at 98. With respect to the third reason, the Court stated that it had "drastically altered the District Court's conclusions on liability," emphasizing that "some—indeed most—of the findings of remediable violations [did] not withstand appellate scrutiny." *Id*. at 105. The Court explained:

> Of the three antitrust violations originally identified by the District Court, one is no longer viable: attempted monopolization of the browser market in violation of Sherman Act § 2. One will be remanded for liability proceedings under a different legal standard: unlawful tying in violation of § 1. Only liability for the § 2 monopoly-maintenance violation has been affirmed—and even that we have revised.

Id. at 103-04. Finally, the Court disqualified the original District Judge pursuant to 28 U.S.C. § 455(a). *Id*. at 117, 119.

While recognizing that "the task of drafting the remedies decree is for the District Court in the first instance," the Court "offer[ed] some further guidance for the exercise of that discretion" on remand. *Id*. at 105. First, the Court stated that the relief "should be tailored to fit the wrong creating the occasion for the remedy," again stressing: "[W]e have drastically altered the scope of Microsoft's liability, and it is for the District Court in the first instance to determine the propriety of a specific remedy for the limited ground of liability which we have upheld." *Id*. at 107. Second, the Court stated that "[i]n devising an appropriate remedy," the District Court "should consider whether plaintiffs have established a sufficient causal connection between Microsoft's anticompetitive conduct and its dominant position in the OS market." *Id*. at 106. Absent a *sufficient* causal connection, the Court explained, Microsoft's anticompetitive conduct "should be remedied by 'an injunction against continuation of that conduct.'" *Id*. (quoting 3 PHILLIP E. AREEDA ET AL., ANTITRUST LAW ¶ 650a, at 67 (1996)).

D. Proceedings on Remand

Following remand, plaintiffs abandoned their Section 1 tying claim and their request for structural relief that would break Microsoft into two companies. J.A. 4255. The District Court (Hon. Colleen Kollar-Kotelly) thereafter ordered the parties to engage in intensive settlement negotiations for a fixed period of time. J.A. 628; J.A. 642-43.

With the assistance of a court-appointed mediator, Microsoft and the United States were able to settle *United States* v. *Microsoft Corp.*, No. 98-1232, resulting in a detailed Consent Decree. Nine of the State plaintiffs—including both New York and Wisconsin, which had served as lead counsel for the States—(the "Settling States") agreed to join the United States in the settlement with Microsoft. Nine other States (California, Connecticut, Florida, Iowa, Kansas, Massachusetts, Minnesota, Utah and West Virginia) and the District of Colombia (the "Litigating States") refused to join the settlement.[2]

[2] Of the original twenty State plaintiffs, one (South Carolina) withdrew during trial in 1999, and another (New Mexico) settled its claims against Microsoft in July 2001. Illinois, Kentucky, Louisiana, Maryland, Michigan, New York, North Carolina, Ohio and Wisconsin joined the settlement negotiated by the United States and lead counsel for the States.

After filing the proposed Consent Decree with the Court, the United States and Microsoft began the process of obtaining judicial approval of the decree pursuant to the Tunney Act, 15 U.S.C. § 16(b)-(h). Because the Litigating States declined to join the settlement, the District Court deconsolidated the cases and established two separate tracks. J.A. 635; J.A. 4294. The District Court referred to the Tunney Act proceeding as "Track I" and to the remaining litigation between Microsoft and the Litigating States as "Track II."

In a 60-page opinion entered in Track I, the District Court approved the Consent Decree, with one modification relating to jurisdiction, as in the "public interest" and thus appropriate relief on the claims of both the United States and the nine Settling States. *United States* v. *Microsoft Corp.*, 231 F. Supp. 2d 144 (D.D.C. 2002); *New York* v. *Microsoft Corp.*, 231 F. Supp. 2d 203 (D.D.C. 2002). The District Court concluded that the Consent Decree appropriately "takes account of the theory of liability advanced by Plaintiffs, the actual liability imposed by the appellate court, the concerns of the Plaintiffs with regard to future technologies, and the relevant policy considerations." 231 F. Supp. 2d at 202.

Although they have no statutory responsibility for formulating national competition policy or enforcing the Sherman Act, the Litigating States in Track II proposed extreme and punitive relief that "differ[ed] substantially" from the Consent Decree negotiated by the United States and lead counsel for the States. J.A. 4335. The Litigating States' proposed remedy extended far beyond the case that was tried and the liability determinations upheld on appeal, encompassing products and alleged conduct by Microsoft never before at issue. Many provisions of the Litigating States' proposed remedy originated with, and were championed by, Microsoft competitors seeking to promote their own commercial interests. *See* J.A. 2004-25. In proposing such wide-ranging remedies, the

Litigating States disregarded this Court's direction that the District Court "consider which of the [original] conduct restrictions remain viable in light of [the] modification of the original liability decision." 253 F.3d at 105. The Litigating States not only pursued all of the conduct remedies previously entered in this case and vacated on appeal, but also proposed at least a dozen new provisions not found anywhere in the prior judgment.

Microsoft argued that the Litigating States were entitled to no equitable relief because, among other reasons, they had not shown that their citizens suffered any particularized injury as a result of the conduct held to be anticompetitive. J.A. 675-76.[3] Alternatively, Microsoft proposed that the District Court exercise its broad discretion to enter the negotiated Consent Decree as relief on the Litigating States' claims, "thereby ensuring that a single, uniform decree governs Microsoft's business nationwide." J.A. 676; *see also* J.A. 682-86. Microsoft proposed such a remedy even though it believed that the Consent Decree provided more relief than was warranted by this Court's liability determinations. J.A. 686.

Following expedited discovery, the District Court conducted a lengthy evidentiary hearing on the issue of relief. The parties submitted the direct testimony of their witnesses in writing, with cross-examination and re-direct examination conducted in open court. Over 32 trial days, the parties offered into evidence 557 exhibits, and the District Court reviewed written

[3] Microsoft separately moved to dismiss the Litigating States' demand for equitable relief, arguing, *inter alia*, that States suing as *parens patriae* under Section 16 of the Clayton Act lack the power to substitute their judgment for that of the United States concerning proper enforcement of federal antitrust law. J.A. 4338. The District Court denied that motion. *New York* v. *Microsoft Corp.*, 209 F. Supp. 2d 132 (D.D.C. 2002). In an *amicus curiae* brief invited by the District Court, the United States argued that the District Court could "properly inquire in the exercise of its equitable discretion whether a small group of States are the parties best situated to obtain relief of such broad reach and implication" that extends to "new products, new services, new markets, and even new theories of liability in the name of deterring future violations as a prophylactic matter." J.A. 4444.

direct testimony and heard live testimony of 34 witnesses, including 28 fact witnesses and six experts in the fields of computer science and economics. The Litigating States' fact witnesses were all representatives of Microsoft's competitors, many of which had played an integral role in formulating the Litigating States' proposed remedy. *See* J.A. 1914-24. Although Microsoft moved to exclude all evidence concerning products unrelated to the limited ground of liability upheld by this Court, the District Court reserved ruling, providing the Litigating States with broad latitude to present evidence at the hearing relating to subjects as diverse as television set-top boxes and integrated telephone messaging systems.

After trial, the parties submitted comprehensive proposed findings of fact and conclusions of law that totaled over 1,000 pages. On November 1, 2002, the District Court, "[u]pon review of the entire record in th[e] case, the determinations of liability affirmed by [this Court], the parties' legal memoranda, and the relevant legal authority," rendered its decision on relief, spanning some 200 pages in the *Federal Supplement 2d Series* reporter. *New York* v. *Microsoft Corp.*, 224 F. Supp. 2d 76, 86 (D.D.C. 2002). In making its factual findings, the District Court "considered the evidence submitted by the parties, made determinations as to its relevancy and materiality, assessed the credibility of the testimony of the witnesses, both written and oral, and ascertained the probative significance of the documentary and visual evidence presented." *Id*. at 194.

The District Court's decree is modeled on Microsoft's proposed remedy, *i.e.*, the negotiated Consent Decree, but contains several modifications in instances where the District Court concluded that the Litigating States had made their case for further relief. *See id*. at 154-55 (OEM insertion of IAP registration offers), 155 (automatic launching of software), 163 (threats of retaliation against OEMs), 166-67 (threats of retaliation against ISVs and IHVs). The District

Court explained that it had "considered but rejected" most of the Litigating States' various remedy proposals "as unsupported by the evidence, unconnected to the appellate court's findings of liability, or potentially harmful to the industry and to consumers." *Id*. at 184. The District Court summarized its decree as follows:

> [T]he appropriate remedy, which the Court has devised and explained at length in this Memorandum Opinion, is carefully tailored to fit the wrong creating the occasion for the remedy. The Court's remedy exceeds a mere proscription of the precise conduct found to be anticompetitive and is forward-looking in the parameters of the relief provided. Moreover, the remedy imposed by the Court is crafted to foster competition in the monopolized market in a manner consistent with the theory of liability in this case.

Id. at 193.

Only two of the ten Litigating States—Massachusetts and West Virginia—appealed the District Court's decision. The other eight States—including California, which took the lead on behalf of the Litigating States during the remedy proceedings—chose to settle with Microsoft on the basis of the District Court's decree. After filing its brief with this Court, West Virginia also elected to settle with Microsoft.

STATEMENT OF FACTS

Plaintiffs asserted four separate claims under the Sherman Act.[4] They ultimately prevailed on only one of those claims: maintenance of a monopoly in Intel-compatible PC operating systems in violation of Section 2. And even that claim was reversed in part by this Court.

A. The Limited Ground of Liability Upheld on Appeal

In its June 2001 decision, this Court affirmed the District Court's conclusion that Microsoft possesses monopoly power in the market for Intel-compatible PC operating systems.

[4] The States asserted a fifth claim under the Sherman Act, monopoly leveraging. J.A. 4471. The District Court granted Microsoft's motion for summary judgment on this claim. *United States* v. *Microsoft Corp.*, 1998-2 Trade Cas. (CCH) ¶ 72,261, at 82,685-86 (D.D.C. Sept. 14, 1998).

253 F.3d at 51-58. Significantly, however, plaintiffs did not contend, and no court has ever found, that Microsoft *acquired* monopoly power unlawfully. *See United States* v. *Microsoft Corp.*, 56 F.3d 1448, 1452 (D.C. Cir. 1995) ("The government did not allege and does not contend—and this is of crucial significance to this case—that Microsoft *obtained* its alleged monopoly in violation of the antitrust laws.") (emphasis in original). Plaintiffs instead asserted that Microsoft illegally *maintained* its monopoly by engaging in anticompetitive conduct directed at two specific forms of middleware, Netscape Navigator and Sun's Java technologies, that were outside the relevant market. *See* 224 F. Supp. 2d at 90. According to plaintiffs, this middleware constituted a nascent threat to Microsoft's operating system monopoly because it had the potential to develop into an alternative platform for PC applications that could simplify the process of porting those applications to other operating systems, thereby threatening to weaken the "applications barrier to entry." *Id*. at 89-90.

Although this Court sustained the District Court's monopoly maintenance ruling, it did so on narrower grounds. The Court reversed with respect to eight of the twenty acts held to be anti-competitive by the District Court, and also reversed the District Court's conclusion that Microsoft's overall course of conduct violated the Sherman Act. 253 F.3d at 58-78. After balancing anticompetitive effects and procompetitive benefits, this Court found that Microsoft engaged in twelve acts that violated the Sherman Act. *Id*. As the District Court observed, "the appellate court was very clear with its liability determination." J.A. 644. This Court held:

1. Microsoft's Windows license agreements improperly prohibited OEMs from removing "visible means of user access" to IE (*i.e.*, desktop icons, folders and "Start" menu entries). 253 F.3d at 61.

2. Microsoft's Windows license agreements improperly prohibited OEMs from modifying the initial Windows boot sequence to promote the services of IAPs, many of which used Navigator rather than IE as their Internet access software. *Id*. at 61-62.

3. Microsoft's Windows license agreements improperly prohibited OEMs from promoting rival Web browsers by adding to the Windows desktop "icons or folders different in size or shape from those supplied by Microsoft." *Id*. at 62.

4. Microsoft's Windows license agreements improperly prohibited OEMs from using the "Active Desktop" feature of Windows 98 to promote rival Web browsers. *Id*.

5. Microsoft improperly excluded IE from the "Add/Remove Programs" utility in Windows 98, thus discouraging OEMs from distributing rival Web browsers. *Id*. at 65.

6. Microsoft improperly "commingled browsing and non-browsing code" in the same files in Windows 98, thus discouraging OEMs from distributing rival Web browsers. *Id*. at 65-66.

7. Microsoft improperly "agreed to provide easy access to IAPs' services from the Windows desktop in return for the IAPs' agreement to promote IE exclusively and to keep shipments of internet access software using Navigator under a specific percentage." *Id*. at 68.

8. Microsoft improperly agreed to provide "preferential support" to certain ISVs in return for their agreement to use (i) IE as the default Web browser for any software they developed with a hypertext-based user interface and (ii) Microsoft's "HTML Help" (which requires IE) to implement their applications' help system. *Id*. at 71-72.

9. Microsoft improperly agreed to release new versions of Office for the Apple Macintosh in return for Apple's agreement to preinstall IE and make it the default Web browser on new Macintosh computers. *Id*. at 72-74.

10. Microsoft improperly agreed to give certain ISVs preferential access to Windows technical information in return for their agreement to use Microsoft's JVM as the default JVM for their software. *Id*. at 75-76.

11. Microsoft improperly deceived ISVs regarding the "Windows-specific nature" of Microsoft's Java developer tools. *Id*. at 76.

12. Microsoft improperly "pressur[ed] Intel not to support cross-platform Java" by threatening to support technology developed by one of Intel's competitors. *Id*. at 77.

Even as it affirmed the District Court's monopoly maintenance ruling, this Court found a causal connection between the twelve anticompetitive acts and Microsoft's "continuing position in the operating system market only through inference." *Id*. at 106-07; *see also id*. at 78-80.[5] As the Court noted, "the District Court expressly did not adopt the position that Microsoft would have lost its position in the OS market but for its anticompetitive behavior." *Id*. at 107. Instead, the District Court found that there was "insufficient evidence to find that, absent Microsoft's actions, Navigator and Java already would have ignited genuine competition in the market for Intel-compatible PC operating systems." *United States* v. *Microsoft Corp.*, 84 F. Supp. 2d 9, 112 (D.D.C. 1999) (FF 411). Although the Court decided that this failure of proof afforded "no defense to liability" in an equitable enforcement action brought by the United States, the Court stated that the strength of the causal connection between Microsoft's conduct and its position in operating systems has "more purchase in connection with the appropriate remedy issue." 253 F.3d at 80.

[5] Massachusetts incorrectly suggests that Microsoft's anticompetitive conduct increased the applications barrier to entry. Mass. Br. at 5. No court found that Microsoft affirmatively increased this entry barrier, which exists wholly apart from the conduct at issue in this case. This Court instead concluded that Microsoft engaged in anticompetitive conduct aimed at certain "middleware" technologies that had the *potential* to *weaken* the applications barrier to entry. *See* 253 F.3d at 79.

B. The Litigating States' Proposed Remedy

As the District Court observed, in crafting their proposed remedy, the Litigating States "show[ed] little respect for the parameters of liability that were so precisely delineated by the appellate court," instead advocating "an extraordinarily expansive view of the conduct that can be encompassed by a remedy in this case." 224 F. Supp. 2d at 107, 192. The Litigating States' proposed remedy was so extreme that their own economist, Carl Shapiro, refused to endorse several key aspects of it. *See* J.A. 4489 (SPR § 1); J.A. 4506-07, 3633, 3634, 4546-47, 4560 (SPR § 4); J.A. 4567 (SPR § 6); J.A. 4494 (SPR § 11); J.A. 4494-95 (SPR § 15).

To start, the Litigating States' definition of "middleware" included "almost any software product, without regard to the potential of the product to evolve into a true platform for other applications." 224 F. Supp. 2d at 106. Given the breadth of this definition, the Litigating States' proposed remedy encompassed numerous technologies, such as television set-top boxes, hand-held devices, Web services, office productivity applications and calendaring systems, "which fall outside of the relevant market and which do not pose a threat to Microsoft's monopoly similar to the threat posed by nascent middleware" like Netscape Navigator and Sun's Java technologies. *Id*.

As the District Court noted, many of the remedial provisions proposed by the Litigating States also "would require drastic alterations to Microsoft's products, as well as to aspects of its business model which do not involve illegal conduct." *Id*. at 192. For example, the District Court found that the Litigating States' proposed remedy for the "commingling" violation "would likely require the complete or substantial redesign of Windows." *Id*. at 251. The District Court further questioned whether it is even possible to redesign Windows to comply with the Litigating States' proposed remedy for commingling. *Id*. at 248-50.

Other remedies proposed by the Litigating States would require "an unjustified divestiture of Microsoft's intellectual property," providing "an unearned windfall to Microsoft's competitors." *Id*. at 177. As the District Court stated, "[t]wo sections in Plaintiffs' proposed remedy suggest a divestiture of two of Microsoft's most valuable assets, IE and Microsoft Office." *Id*. at 185. One section would require Microsoft to give away to its competitors all of its intellectual property relating to IE, and the other would require Microsoft to auction three licenses to port Microsoft Office to non-Microsoft operating systems. *Id*. at 241. In addition, the District Court aptly described the Litigating States' proposed "API disclosure" remedy as "an intellectual property 'grab' by Microsoft's competitors." *Id*. at 229.

The Litigating States ostensibly based these requests for sweeping relief on a series of new allegations of "bad" acts by Microsoft that were at best "tenuously related to the liability findings." *Id*. at 139. As the District Court observed, the Litigating States "sought to gather all existing complaints regarding Microsoft's business practices and bring them before the Court at this late stage in the case," even though they were disconnected from the liability determinations upheld on appeal. *Id*. at 192.

"[T]he likely beneficiaries" of these proposed remedies were "[c]ertain of Microsoft's competitors," not consumers. *Id*. at 193. This is not surprising because Microsoft's competitors were actively involved in developing the Litigating States' proposed remedy. *See* J.A. 2714-20; *see also* J.A. 2004-15.[6] The District Court took "careful note of those remedial proposals which advance the interests of particular competitors and [took] pains

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[6] Following an earlier unsuccessful mediation in this case at which he served as the mediator, Chief Judge Posner observed that States "are too subject to influence by interest groups that may represent a potential antitrust defendant's competitors." Richard A. Posner, *Antitrust in the New Economy*, 68 ANTITRUST L.J. 925, 940 (2001).

to ensure that the remedy in this case is not a vehicle by which such competitors can advance their own interests." 224 F. Supp. 2d at 111. After considering the evidence, the District Court found that most of the Litigating States' proposed remedies, "if imposed, would likely inflict significant harm upon industry participants . . . and potentially, consumers." *Id*. at 255.

STANDARD OF REVIEW

This Court "reviews a trial court's decision whether or not to grant equitable relief only for an abuse of discretion." 253 F.3d at 105. This deferential standard of review recognizes that the trial court enjoys "broad discretion to enter that relief it calculates will best remedy" conduct found to violate the antitrust laws. *Id*. The Supreme Court has repeatedly emphasized that "[t]he 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) (internal quotation omitted).[7]

"Findings of fact . . . shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses." FED. R. CIV. P. 52(a). That is a rigorous standard: "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

[7] *See United States* v. *Loew's Inc.*, 371 U.S. 38, 52 (1962) ("The trial judge's ability to formulate a decree tailored to deal with the violations existent in each case is normally superior to that of any reviewing court, due to his familiarity with testimony and exhibits."); *Md. & Va. Milk Producers Ass'n* v. *United States*, 362 U.S. 458, 473 (1960) ("The formulation of decrees is largely left to the discretion of the trial court . . . ."); *United States* v. *U.S. Gypsum Co.*, 340 U.S. 76, 89 (1950) ("The determination of the scope of the decree to accomplish its purpose is peculiarly the responsibility of the trial court. Its opportunity to know the record and to appraise the need for prohibitions or affirmative actions normally exceeds that of any reviewing court."); *Int'l Salt Co.* v. *United States*, 332 U.S. 392, 400-01 (1947) ("The framing of decrees should take place in the District rather than in Appellate Courts. They are invested with large discretion to model their judgments to fit the exigencies of the particular case.") (footnote omitted).

differently." *Anderson* v. *City of Bessemer City*, 470 U.S. 564, 573-74 (1985). Indeed, "[w]here there are two permissible views of the evidence, the factfinder's choice between them cannot be clearly erroneous." *Id*. at 574. As this Court has held, the "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 reviewed *de novo*. *See United States ex rel. Modern Elec., Inc.* v. *Ideal Elec. Sec. Co.*, 81 F.3d 240, 244 (D.C. Cir. 1996).

SUMMARY OF ARGUMENT

The District Court properly exercised its discretion in entering relief tailored to the limited ground of liability upheld by this Court. In so doing, the District Court considered and rejected all of the arguments raised on appeal by Massachusetts.

1. The District Court's decree rests on a correct application of settled law to extensive factual findings. The District Court properly considered the relevant remedial criteria identified by this Court in its June 2001 opinion and by the Supreme Court in other antitrust cases. Contrary to Massachusetts' suggestion, the District Court did not disregard this Court's mandate; it followed this Court's instructions to the letter. Nor did the District Court, as Massachusetts argues, apply an improper presumption in favor of Microsoft's proposed remedy. Because the remedy Microsoft proposed went beyond an injunction against continuation of the conduct held to be anticompetitive, the District Court properly placed on the Litigating States, as the plaintiffs, the burden of justifying further relief. The District Court found that the Litigating States failed to satisfy that burden except in very limited respects.

2. The District Court acted well within its broad discretion in entering relief for the twelve acts found to be anticompetitive. Massachusetts does not dispute that the decree entered

remedies ten of those twelve acts, limiting its challenge on appeal to two anticompetitive acts: commingling of software code and deception of Java developers. Neither challenge has merit. *First*, the District Court awarded relief that it found will best address the anticompetitive effect of commingling, a principal focus of the remedies hearing. The District Court properly rejected the Litigating States' alternative remedy, which even their own economist refused to endorse. J.A. 4489. The District Court found that the Litigating States' proposed remedy would require the complete redesign of Windows and, more importantly, would harm both ISVs and consumers. *Second*, the District Court acted within its discretion in declining to award injunctive relief directed specifically at Microsoft's deception of Java developers. The District Court found that the Litigating States failed to prove a continuing threat of harm from this conduct, which ceased more than four years ago when Microsoft modified its Java developer tools.

3. The District Court's decree is much more than a proscription of the twelve acts found to be anticompetitive; it includes numerous forward-looking provisions that extend beyond the specific conduct and middleware threats addressed in the liability phase. Although the liability phase focused on two specific middleware threats—Netscape Navigator and Sun's Java technologies—that were found to have the potential to develop into an alternative platform for PC applications, the District Court's decree also applies to e-mail client software, networked audio/video software and instant messaging software, as well as future technologies that fall within the decree's "middleware" definitions. *See* 224 F. Supp. 2d at 275-76. Based on the evidence, the District Court found that the decree will foster competition in the relevant market. Mindful of this Court's admonition that relief "should be tailored to fit the wrong creating the occasion for the remedy," 253 F.3d at 107, the District Court did not adopt most of the additional

remedies proposed by the Litigating States, many of which "prodigiously exceed[] even an expansive view of the illegal conduct" in this case. 224 F. Supp. 2d at 194. On appeal, Massachusetts challenges the District Court's ruling with respect to six aspects of the Litigating States' proposed remedy. The District Court carefully considered and, in the exercise of its discretion, properly rejected each of the arguments advanced by Massachusetts.

ARGUMENT

Massachusetts has not shown that the District Court misapplied the law or based its decision on clearly erroneous factual findings. Nor has Massachusetts shown that the District Court abused its discretion in entering a decree that it determined will remedy the conduct found to violate the Sherman Act.

I.

The District Court Applied the Correct Legal Standards.

Massachusetts argues that the District Court committed three principal legal errors. First, it contends that the District Court disregarded this Court's mandate and failed to consider the remedial objectives articulated by this Court and the Supreme Court in other antitrust cases. Mass. Br. at 14-18. Second, Massachusetts asserts that the District Court attached an "unspoken" presumption in favor of Microsoft's proposed remedy. *Id*. at 41-44. Third, Massachusetts claims that the District Court applied an improper "but-for causation" requirement in rejecting a provision of the Litigating States' proposed remedy. *Id*. at 34-35, 45-47. None of these arguments has merit.

A. The District Court Followed This Court's Mandate and Considered the Remedial Objectives Articulated by This Court and the Supreme Court.

Massachusetts argues that the District Court defied this Court's mandate by entering a remedy that does not address the remedial criteria discussed in this Court's opinion. *Id*. at 14-15.

This argument is based on a sentence from the section of this Court's decision vacating the prior decree because the District Court in June 2000 failed to provide an adequate explanation for the radical relief it had ordered. *Id*. at 15 (quoting 253 F.3d at 103). That sentence states:

> The Supreme Court has explained that a remedies decree in an antitrust case must seek to "unfetter a market from anticompetitive conduct," . . . "terminate the illegal monopoly, deny to the defendant the fruits of its statutory violation, and ensure that there remain no practices likely to result in monopolization in the future."

253 F.3d at 103 (quoting *Ford Motor Co.*, 405 U.S. at 577, and *United States* v. *United Shoe Mach. Corp.*, 391 U.S. 244, 250 (1968)). In vacating the prior remedial decree, this Court faulted the District Court for not adequately explaining its remedy by "discuss[ing] the objectives the Supreme Court deems relevant." *Id*.

The suggestion that the District Court disregarded this Court's mandate is baseless. The District Court correctly recognized that "the mandate of the appellate court" required it "to fashion a remedy appropriately tailored to the revised liability findings." 224 F. Supp. 2d at 88 (citing 253 F.3d at 105). That is exactly what the District Court did. Indeed, it followed this Court's instructions to the letter: Before attempting to "fashion an appropriate remedy for Microsoft's antitrust violations," the District Court conducted a lengthy "evidentiary hearing on remedies—to update and flesh out the available information" and to resolve "remedies-specific factual disputes." 253 F.3d at 49, 105, 107. After arriving at "an appropriate remedy for Microsoft's illegal behavior," 224 F. Supp. 2d at 103, the District Court carefully explained the "reasons for its decreed remedies" in a comprehensive memorandum opinion supported by an appendix of detailed factual findings specific to the issue of relief. 253 F.3d at 107. In providing this explanation, the District Court discussed each of the remedial objectives mentioned in this Court's opinion. *See*, *e.g*., 224 F. Supp. 2d at 100-01.

The District Court correctly recognized that "the facts and circumstances of this case necessarily affect the extent to which this Court's order of remedy will 'accomplish those objectives.'" *Id*. at 100 (quoting 253 F.3d at 103); *see also* 2 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 325a, at 246 (2d ed. 2000) [hereinafter AREEDA] ("What is necessary to undo illegality varies with the circumstances."). For example, the District Court observed that "the monopoly in this case was not found to have been illegally acquired" and that there is no finding that Microsoft would have lost its monopoly in Intel-compatible PC operating systems but for its anticompetitive conduct. 224 F. Supp. 2d at 100-01. "Given these circumstances," the District Court concluded that "it does not seem to be a valid objective for the remedy in this case to actually 'terminate' Microsoft's monopoly." *Id*. at 101. Rather, the District Court stated, "the proper objective of the remedy in this case is termination of the exclusionary acts and practices related thereto which served to illegally maintain the monopoly." *Id*.

It also cannot be said, as Massachusetts suggests, that the District Court ignored Supreme Court precedent on the proper scope of an antitrust remedy. To the contrary, the District Court considered all of the leading Supreme Court decisions cited by Massachusetts. *See* 224 F. Supp. 2d at 99-103, 106-110.[8] The District Court correctly concluded that the Litigating States' pro-

[8] Massachusetts relies primarily on decisions in enforcement actions brought by the United States pursuant to Section 15 of the Clayton Act. The Litigating States, however, sought injunctive relief for Microsoft's violation of the Sherman Act pursuant to Section 16 of the Clayton Act. In seeking relief under Section 16, the Litigating States were proceeding not in a law-enforcement capacity, but as private plaintiffs. *See New York* v. *Kraft Gen. Foods, Inc.*, 862 F. Supp. 1030, 1033 (S.D.N.Y. 1993) ("Although the State of New York is a government actor, it is considered a private party when seeking an injunction pursuant to the Clayton Act."); *see also* 2 AREEDA ¶ 335a, at 286 n.1 ("Everyone other than the federal government falls in the 'private' plaintiff category, which thus includes a state attorney general invoking federal antitrust law—whether on behalf of the state or of its citizens."). This distinction is important. As the United States explained, permitting the Litigating States, which "have neither the authority nor the responsibility to act in the broader national interest," to seek "remedies that conflict with or undermine the enforcement judgments reached" by the United States in the Consent Decree threatens to "endanger our practical system of coordinated antitrust enforcement." J.A. 4444.

posed remedy "extends this precedent well beyond its clear and logical application" because "the majority of practices that Plaintiffs seek to enjoin" are unrelated to the acts "found to violate the antitrust laws." *Id*. at 110.

The District Court recognized that "an appropriate remedy in antitrust cases typically exceeds 'a simple proscription against the precise [unlawful] conduct previously pursued,'" *id*. at 106 (quoting *Nat'l Soc'y of Prof'l Eng'rs* v. *United States*, 435 U.S. 679, 698 (1978) (alteration in original)), and entered just such a remedy. For instance, the definition of middleware adopted by the District Court "expands beyond the middleware discussed at the liability phase," thus "afford[ing] coverage or protection to a wide variety of third-party software products." *Id*. at 114. The District Court's decree also "mandate[s] disclosure and licensing of protocols used by clients running on Microsoft's Windows operating system to interoperate with Microsoft servers," despite the fact that client-server interoperability was not addressed at all in the liability phase. *Id*. at 172. The District Court concluded that "this aspect of the Court's remedy contributes to the elimination of the consequences of Microsoft's illegal conduct." *Id*. at 173 (citing *Nat'l Soc'y of Prof'l Eng'rs*, 435 U.S. at 698).

At the same time, the District Court understood that the proper starting point in crafting a remedy must be the adjudicated antitrust violations. As the Supreme Court has stated, the remedy must be "connected with acts actually found to be illegal." *U.S. Gypsum*, 340 U.S. at 89. Thus, "despite unquestionable legal authority" permitting it to "address conduct beyond the precise parameters of that found to violate the antitrust laws," the District Court rejected the Litigating States' "extraordinarily expansive view of the conduct that can be encompassed by a remedy in this case." 224 F. Supp. 2d at 107. This decision was entirely consistent with Supreme Court precedent:

> In each of the cases relied upon by Plaintiffs, to the extent that the remedy imposed exceeded the specific anticompetitive conduct, the restrictions were closely related to the anticompetitive conduct. [Yet], in this case, the scope of Plaintiffs' proposal exceeds most rational extensions of injunctive relief for the anticompetitive conduct.

Id. at 110 (discussing *Int'l Salt*, 332 U.S. at 392; *United States* v. *Paramount Pictures*, 334 U.S. 131 (1948); *Zenith Radio Corp.* v. *Hazeltine Research, Inc.*, 395 U.S. 100 (1969); and *Nat'l Soc'y of Prof'l Eng'rs*, 435 U.S. at 679).

B. The District Court Did Not Apply an Improper Presumption in Favor of Microsoft's Proposed Remedy.

Massachusetts accuses the District Court of applying an improper presumption in favor of Microsoft's proposed remedy. Mass. Br. at 41-44. Massachusetts concedes that the District Court "did not acknowledge the presumption," but argues that an "unspoken presumption must be the basis for [the District Court's] adoption of Microsoft's proposals" because Microsoft failed "to prove the efficacy of its remedy." *Id*. at 42. According to Massachusetts, this presumption led the District Court to hold "the States to a quantum of proof it did not demand of Microsoft." *Id*. at 41, 43.

The District Court did not predicate its decision on any presumption, nor did it misallocate the burden of proof. In an antitrust action like any other action, "[t]he burden of showing the appropriateness of any particular type of relief rests on the plaintiff . . . ." 2 AREEDA ¶ 325a, at 245. That burden is even greater where, as here, the plaintiff is a private party suing under Section 16 of the Clayton Act, not the United States suing under Section 15. *See California* v. *Am. Stores Co.*, 495 U.S. 271, 295-96 (1990). In arguing that the District Court erred, Massachusetts appears to have the burden of proof backwards, suggesting that the District Court was obliged to adopt the Litigating States' proposed remedy because Microsoft did not prove that its proposal would meet the criteria for antitrust remedies specified by this Court. Mass. Br.

at 41, 43. Massachusetts cites no authority for its suggestion that Microsoft somehow bore the burden of proof on the issue of relief.

To ensure that a single uniform decree would govern its business nationwide, Microsoft proposed entry of the Consent Decree negotiated by the United States and lead counsel for the States as relief on the Litigating States' claims. In so doing, Microsoft proposed a remedy that went far beyond an injunction against continuation of the conduct held to be anticompetitive. The District Court thus properly placed on the Litigating States, as the plaintiffs, the burden of showing that any further relief is appropriate. After considering all of the evidence, the District Court found that the Litigating States failed to satisfy that burden except in quite limited respects.

In arguing that Microsoft submitted "virtually no evidence" in support of its proposed remedy, Massachusetts misstates the record. *Id*. at 42. Microsoft devoted a section of its proposed findings of fact to explaining how the evidence presented at trial established that its proposed remedy would address—indeed, go beyond—the anticompetitive effects of the twelve acts found to violate the Sherman Act. J.A. 2174-2219. Massachusetts also wrongly criticizes the District Court for "never remark[ing] on the lack of economic analysis from Microsoft supporting the remedy the court adopted." Mass. Br. at 43. Microsoft presented substantial expert economic testimony concerning its proposed remedy. *See* J.A. 2749-62; J.A. 2640-49; J.A. 4587-88; J.A. 3791; J.A. 4637; J.A. 4639; J.A. 4644; J.A. 4646-48.

C. The District Court Properly Considered the Degree of Causation in Entering an Appropriate Remedy.

"The mere existence of an exclusionary act does not itself justify full feasible relief against the monopolist to create maximum competition." 3 AREEDA ¶ 650a, at 67. "Instead, the court crafting a remedy must assess the strength of the causation evidence that established liability and tailor the relief accordingly." 224 F. Supp. 2d at 102. In this case, the District Court correctly recognized that "the appropriate remedy [must] reflect[], among other considerations, the strength of the evidence linking Defendant's anticompetitive behavior to its present position in the market." *Id*. at 103. Contrary to Massachusetts' suggestion, the District Court also understood that the portions of this Court's opinion that discussed causation were "largely concerned . . . with the propriety of a structural remedy of dissolution." *Id*. at 102. Because plaintiffs abandoned their request for such a remedy, the District Court "examine[d] the existing causal connection through a different lens than that anticipated and addressed by" this Court. *Id*.

Massachusetts asserts that "[t]he district court erred as a matter of law in the causation burden it applied to analyzing the fruits of Microsoft's illegality," referring only to the District Court's rejection of the proposal that Microsoft be required to license the source code for IE free of charge to its competitors. Mass. Br. at 34.[9] As the District Court found, this proposal would result in confiscation of all of Microsoft's intellectual property relating to IE, one of Microsoft's most valuable assets. 224 F. Supp. 2d at 185, 244-45. Massachusetts states that the District Court imposed "a stringent but-for test before the advantages gained by Microsoft could be considered a fruit of Microsoft's illegality." Mass. Br. at 34. This is not the case.

In rejecting the Litigating States' so-called "open-source IE" remedy, the District Court noted that "Plaintiffs offer[ed] the additional *argument* that divestiture of IE is appropriate because it is the 'fruit' of Microsoft's illegal conduct." 224 F. Supp. 2d at 243 (emphasis in original). "In so arguing," the District Court stated, "Plaintiffs [did] not direct the Court to any new

[9] Massachusetts elsewhere devotes a section of its brief to discussing the "significance of causation for the appropriate remedy" without arguing that the District Court erred in its treatment of causation. Mass. Br. at 45-47.

evidence to support this assertion, but instead rel[ied] exclusively upon Judge Jackson's factual findings from the liability phase." *Id*. (emphasis in original). Those findings, the District Court concluded, do not establish "that IE's success is the 'fruit' of Microsoft's illegal conduct." *Id*. at 243-44 (citing 84 F. Supp. 2d at 98 (FF 358)). The District Court thus rejected the Litigating States' proposed remedy because, among other reasons, the evidentiary record did not support their assertion that IE's success is a "fruit" of the anticompetitive conduct affirmed by this Court. *See id*. at 185 & n.81, 224 n.121.[10]

II.

The District Court Did Not Abuse Its Discretion in Entering Relief for the Twelve Acts Held To Be Anticompetitive.

Massachusetts contends that two of the twelve acts found to be anticompetitive by this Court are not remedied by the District Court's decree: (i) commingling of "browsing and non-browsing code" in the same files in Windows 98 and (ii) deceiving ISVs regarding the "Windows-specific nature" of Microsoft's Java developer tools. *See* Mass. Br. at 18-23. These contentions are unavailing.

A. The District Court Did Not Abuse Its Discretion in Remedying the "Commingling" Violation.

This Court held that "Microsoft's decision to bind IE to Windows 98 'by placing code specific to Web browsing in the same files as code that provided operating system functions'" was anticompetitive because it deterred OEMs "from installing a second browser." 253 F.3d at 65-66 (quoting 84 F. Supp. 2d at 50 (FF 161)). In the liability phase, the District Court found that the inability to remove IE from Windows 98 made OEMs less inclined to preinstall Netscape

[10] In short, the Litigating States failed to prove this aspect of their case. Even their economic expert did not consider divestiture of IE necessary to deny Microsoft the "fruit" of its illegal conduct. *See* 224 F. Supp. 2d at 244 n.121 (citing J.A. 4551).

Navigator on their new PCs because the visible presence of two Web browsers might confuse novice users and thus increase OEMs' support costs. 84 F. Supp. 2d at 49, 63 (FF 159, 217).

In affirming the "commingling" violation, this Court did not broadly condemn Microsoft's integration of IE into its Windows operating systems. *See* 253 F.3d at 64-67, 93. Nor did it hold that the numerous interdependencies among components of Windows constitute unlawful commingling. *See id*. at 64-66. In fact, this Court rejected the claim that Microsoft's design of Windows 98 was anticompetitive because operating system features such as the Help system, Windows Update and Windows Explorer depend on the presence of IE and would not work if the software code that supplies Web browsing functionality were removed from the operating system. *Id*. at 67; *see also* J.A. 4733-35; J.A. 2535.

"Much of the litigation in the remedy phase . . . focused upon the proper remedy for" commingling. 224 F. Supp. 2d at 156. In fact, considerably more evidence was presented on this issue in the remedy phase than was presented in the liability phase. Based on its consideration of this evidence, and in the exercise of its discretion, the District Court concluded that "the most appropriate remedy" is one that "address[es] the exclusionary effect of the commingling" by requiring "Microsoft to alter its Windows technology to ensure that OEMs and end users may disable end-user access to various types of Windows functionality." *Id*. "By addressing the adverse effect of such commingling," the District Court found, the remedy "can more readily [be expanded] beyond the specific finding of liability for commingling browsing-related code with operating system-related code." *Id*.

In entering such relief, the District Court rejected the Litigating States' proposal to "require[] the removal of Windows code providing . . . 'middleware' functionality." *Id*. at 157. The District Court explained:

> Nothing in the rationale underlying the commingling liability finding requires removal of software code to remedy the violation. To the contrary, the evidence presented to the Court indicates that the ability to remove end-user access to any commingled functionality would sufficiently address the anticompetitive aspect of the conduct and would prove far less disruptive to consumers and industry participants.

Id. at 158; *see also* J.A. 2736-40, 2750-51; J.A. 2646, 2660, 2662; J.A. 3796-97. The District Court found that "the record is overwhelmed with significant unrebutted evidence that Plaintiffs' proposal of code removal would harm ISVs and consumers." 224 F. Supp. 2d at 158. The District Court also stressed that the Litigating States' "sole economic expert refused to endorse *any* aspect of [this] proposed remedy." *Id*. at 254-55 (emphasis in original).

1. The District Court Properly Entered the Relief That It Determined Will Best Remedy the "Commingling" Violation.

The District Court determined that the appropriate remedy for commingling "is a mandate that Microsoft permit OEMs to remove end-user access to aspects of the Windows operating system which perform middleware functionality." *Id*. at 159. The District Court found that this remedy "address[es] directly the anticompetitive effect of Microsoft's commingling" by "eliminat[ing], or at least substantially reduc[ing], the deterrent effect of the presence of the Microsoft technology upon the OEM's inclination to install alternative technology." *Id*.; *see also id*. at 201 ("[T]he provision of a mechanism by which OEMs can hide end-user access to Microsoft functionality encourages OEMs to install middleware which competes with the concealable portions of Windows."). As the District Court held, any doubt about the adequacy of this remedy "is quickly stifled by the clear and certain harm to the entire personal computer ecosystem which would result from the alternative proposal of mandated code removal." *Id*. at 159.

Massachusetts challenges as clearly erroneous the District Court's finding that allowing OEMs to remove end-user access to certain Windows functionality addresses the exclusionary effect of commingling. Mass. Br. at 19-21.[11] Massachusetts, however, falls far short of establishing clear error: the District Court's finding is supported by substantial testimony in the record. *See* J.A. 2750-51, 2754, 2761-62; J.A. 2646, 2660; J.A. 749; J.A. 3796-97. As Microsoft's economist Kenneth Elzinga explained, allowing OEMs to remove end-user access to components of Windows defined as "middleware" "stops the economic consequences of the commingling" from the standpoint of either "the end user or the OEM." J.A. 3797. This testimony is consistent with findings of fact entered by the District Court in the liability phase. *See* 84 F. Supp. 2d at 59 (FF 203) ("If OEMs removed the most visible means of invoking Internet Explorer, and pre-installed Navigator with facile methods of access, Microsoft's purpose in forcing OEMs to take Internet Explorer—capturing browser usage share from Netscape—would be subverted."); *see also id*. at 50-51 (FF 165).[12]

[11] In an *amicus* brief filed in support of Massachusetts, three trade associations contend that the District Court's decree also does not address the exclusionary effect of Microsoft's exclusion of IE from the Add/Remove Programs utility in Windows 98. CCIA/ProComp/SIIA Br. at 14 n.1. They assert, without citation, that this utility once enabled OEMs and others to remove "a substantial portion . . . of the underlying code of a program." *Id*. This is untrue. If invoked, the Add/Remove Programs utility removed only enough software code from Windows to eliminate user access to the functionality of IE, including the means of launching IE to browse the Web. *See* 84 F. Supp. 2d at 50-51 (FF 165). In a previous appeal, this Court accurately observed that the software code removed by this utility "look[s] more like a key to opening IE than anything that could plausibly be considered IE itself." *United States* v. *Microsoft Corp.*, 147 F.3d 935, 952 n.17 (D.C. Cir. 1998).

[12] Massachusetts asserts that Bill Gates "testified that Microsoft had, as of the hearing, commenced no engineering project to assess how to uncommingle Windows." Mass. Br. at 52. The cited testimony does not support this assertion. Gates testified that Microsoft was not currently working on an engineering project to determine how it could comply with the Litigating States' proposed "unbinding" remedy. J.A. 748. Gates made clear, however, that Microsoft had "addressed the competitive concern" underlying the Court's commingling ruling "by making it easy for OEMs to remove end-user access to Internet Explorer." J.A. 749. In addition, the Microsoft executive responsible for Windows XP, the latest version of Windows, testified without contradiction that "[t]here are valid engineering reasons for the placement of blocks of software code into particular files" in Windows XP. J.A. 2529.

Massachusetts' contention that enabling OEMs and users to remove access to Windows components defined as "middleware" fails to remedy the exclusionary effect of commingling is an unexplained about-face from the position plaintiffs took throughout both the liability phase and the prior appeal in this case. In 1998, Frederick Warren-Boulton, one of plaintiffs' economists, testified:

> Microsoft's conduct is anticompetitive because it prevents OEMs from removing the icon or other visible means of end-user access to Internet Explorer. If a user cannot invoke a program, then from that user's perspective it is as if that program is not present. And, if IE is not present in that sense, it is in effect removed, and the OEM will be more likely to distribute other browsers to users who would rather purchase such a browser. Removal of IE in this sense thus removes an obstacle to the distribution of other browsers. And—this is the key point—removing IE in this way does not remove *any of the shared files* or any of the platform files found in either Windows 95 or Windows 98.

J.A. 4908-09 (footnoted omitted and emphasis in original).

Consistent with such testimony, the original remedy proposed by all plaintiffs and entered by the District Court in June 2000 would have required Microsoft to develop a version of Windows from which the "means of End-User Access" to specified "middleware" could be removed. 97 F. Supp. 2d at 68. The Litigating States' economist, Shapiro, enthusiastically supported this proposal in 2000, submitting a declaration in support of plaintiffs' proposed remedy which stated that allowing OEMs to remove end-user access to Microsoft middleware would provide OEMs with "the incentive to experiment to best serve consumers' interests." J.A. 4942.

In the prior appeal, plaintiffs—including Massachusetts—similarly emphasized the "important distinction . . . between functionality and code," representing to this Court:

> 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.

J.A. 5072. In defending their proposed relief, plaintiffs stressed that it "require[d] only that end users and OEMs be able to remove end user access to the middleware product—in this case, the browser—not APIs or code." J.A. 5100.

The Settling States on remand summarized plaintiffs' consistent position with regard to the appropriate remedy for commingling:

> Plaintiffs maintained throughout the case that removal of end user access to Microsoft middleware, and not the actual removal of code, was what was required to give competitive marketplace forces the opportunity to operate. Consistent with this position, the [Consent Decree] avoids the software design and platform fragmentation issues that might arise if Microsoft were required to design Windows to enable code to be removed without competing middleware added.

J.A. 5151.[13]

Simply stated, Massachusetts asserts that the District Court—after carefully reviewing the evidence and providing a cogent explanation for its conclusion—abused its discretion by *agreeing* with the position that Massachusetts and all other plaintiffs had consistently espoused.

2. The District Court Properly Rejected the Litigating States' Proposed "Unbinding" Remedy.

As their remedy for commingling, the Litigating States sought to require Microsoft to license "an 'unbound' version of the operating system from which the 'binary code for each Microsoft Middleware Product'" (as they defined the term) "'may be readily removed'" without in any way degrading the operating system's other functionalities. 224 F. Supp. 2d at 245 (quoting SPR § 1). The District Court properly rejected this proposed remedy for at least three independent reasons.

[13] *See also* J.A. 5293.

a. The District Court found that “Plaintiffs’ remedy proposal is deficient [because] it does not provide any rule, or even guidance to Microsoft, for determining which code within Windows constitutes the various ‘Microsoft Middleware Products’” encompassed by their definition of that term. *Id*. at 247. As the District Court noted, even the Litigating States’ technical expert, Andrew Appel, “was unable to offer a hard and fast rule for distinguishing operating system functionality from application (or middleware) functionality.” *Id*. “Because of this failure,” the District Court found, “Plaintiffs have not offered a reasonable way for Microsoft to separate the code in order to comply with the code removal requirements in Plaintiffs’ unbinding proposal.” *Id*. at 157. The District Court concluded that “the absence of such guidance” renders the Litigating States’ proposed remedy “vague[],” “ambiguous” and “largely unenforceable.” *Id*. at 248.

Massachusetts argues that “[i]t was error for the district court to find that code identification prevents remedying commingling.” Mass. Br. at 50. It asserts (*id*. at 49) that this supposed finding conflicts with Finding of Fact 182 from the liability phase, which states that Microsoft can “identify the browsing-specific code” in Windows. 84 F. Supp. 2d at 54. Massachusetts also contends that this finding is inconsistent with the District Court’s determination that the software code for five specific components of Windows (IE, Microsoft’s JVM, Windows Media Player, Windows Messenger and Outlook Express) “can be identified for purposes of [the] API disclosure” provision of the District Court’s decree. Mass. Br. at 49 (citing 224 F. Supp. 2d at 116-17). Both contentions are wrong.

The District Court did not find that “code identification prevents remedying commingling” or that Microsoft cannot identify the software code in Windows that supplies Web browsing functionality. The District Court instead found that the Litigating States’ failure to provide any guidance for determining which software code in Windows falls within their definition of "Microsoft Middleware Product" renders their proposed "unbinding" remedy vague, ambiguous and unenforceable. 224 F. Supp. 2d at 247-48. That finding is supported by substantial testimony. *See* J.A. 2986-91; J.A. 2706-08; J.A. 4726-30, 4736; J.A. 2862-67; *see also* J.A. 2031-37. Even the Litigating States' technical expert conceded that "at the moment, there is no way to draw boundaries around the components that correspond to a particular Microsoft middleware product" that would have to be made removable under the Litigating States' proposed remedy. J.A. 4040.

To be sure, the District Court's decree defines "Microsoft Middleware" for purposes of the decree's "API disclosure" provision as the software code that Microsoft distributes separately from Windows and that is trademarked and marketed by Microsoft as a major version of a "Microsoft Middleware Product." 224 F. Supp. 2d at 116, 275. That it is possible to identify the software code that comprises "Microsoft Middleware" for purposes of Section III.D of the District Court's decree does not mean that it is possible to identify the software code for "all of the other types of 'middleware'" encompassed by the Litigating States' broad definition of that term. *Id*. at 248. The District Court correctly observed that "Plaintiffs' proposed remedy defines middleware very broadly, such that virtually any block of software code which exposes an API constitutes middleware." *Id*. at 248 n.122. Indeed, as the Litigating States have defined it, "in excess of 90 percent—likely 98 percent—of the Windows operating system is 'middleware.'" *Id*. at 248.

b. The District Court found that the Litigating States' proposed "unbinding" remedy "would likely require the complete or substantial redesign of Windows." *Id*. at 251. The District Court explained that it was "appropriately reluctant to enter a remedy that [would] require[]

Microsoft to completely redesign its Windows products and [would] place[] the Court in the role of scrutinizing whether Microsoft has done so without degradation of the ultimate product." *Id*. at 158. The District Court stressed that the evidence presented during the remedies hearing established that "Microsoft's innovation would be stifled by the requirement that it redesign its products." *Id*.

The District Court also questioned whether Microsoft could successfully redesign Windows to comply with the Litigating States' proposed "unbinding" remedy. As the District Court explained, there exist within Windows "countless interdependencies between the various 'Microsoft Middleware Products.'" *Id*. at 248. These interdependencies are highly efficient from an engineering perspective and make the operating system easier to use. *See* J.A. 4734-35; J.A. 2528-36; J.A. 2882-86. "Because of these interdependencies, the removal of a particular component may cause the failure of other components that relied upon the removed component, such that the remaining components do not function 'without degradation.'" 224 F. Supp. 2d at 249 (quoting SPR § 1). The District Court was "not satisfied that Microsoft can readily account for the existing interdependencies so as to render various 'Microsoft Middleware Products' removable without degrading the remaining portion of the operating system." *Id*. at 250.

Massachusetts contends that the District Court's "criticisms of the feasibility of the States' commingling remedy" are unfounded. Mass. Br. at 50. According to Massachusetts, the Litigating States' technical expert, Appel, "identified at least four methods by which Microsoft could comply with" their "unbinding" remedy. *Id*. at 51. The District Court, however, expressly considered and properly rejected each of those proffered methods. 224 F. Supp. 2d at 250-51.

Those findings are supported by substantial evidence. *See* J.A. 3016-19; J.A. 4742-46; J.A. 2888-93.

Massachusetts also argues that "Microsoft's recent creation and marketing of Windows XP Embedded" is "additional evidence of the feasibility of remedying commingling." Mass. Br. at 51 n.40. But the District Court expressly considered and rejected that assertion as well. 224 F. Supp. 2d at 249-50. Those findings likewise are supported by substantial evidence. *See* J.A. 3002-12, 3044-45; J.A. 3569-76; *see also* J.A. 2349-61.

Massachusetts' claim (Mass. Br. at 51 n.40) that the District Court's finding is based upon a "misapprehension" about the Litigating States' proposed "unbinding" remedy—"that all code from any middleware functionality must be removed for compliance"—cannot be reconciled with the actual language of the proposal. The Litigating States' proposed "unbinding" remedy would require Microsoft to make "the binary code for each Microsoft Middleware Product" readily removable. SPR § 1.[14]

Massachusetts lastly asserts that the District Court's findings concerning the feasibility of code removal are inconsistent with findings from the liability phase. *Id*. at 51-52. In particular, Massachusetts states that "[t]he liability trial court found that one of the government's experts, Professor Felten, demonstrated code removal." *Id*. (citing 84 F. Supp. 2d at 55 (FF 185, 187)).

[14] Massachusetts argues that the District Court erroneously found that "under the States' remedy, the removal of the browser from Windows 'requires the removal of the HTML renderer.'" Mass. Br. at 50-51 (quoting 224 F. Supp. 2d at 246). The Litigating States' technical expert acknowledged, however, that rendering HTML (the language used to create Web pages) is "one of the several functions of the browser." J.A. 3849. Because HTML rendering is part of—indeed, integral to—Web browsing, if Microsoft were to design an "unbound" version of Windows that left the HTML rendering engine (*i.e.*, the software that displays Web pages) in place when IE is removed, competitors could claim that Microsoft has not really made IE removable. *See* J.A. 4729-30. This example points up the substantial uncertainty surrounding which software code must be made removable under the Litigating States' proposed "unbinding" remedy. *Cf.* J.A. 3929-30.

Felten demonstrated nothing of the sort. To the contrary, "Felten's program remove[d] only a small fraction of the code in Windows 98," 84 F. Supp. 2d at 55 (FF 183), code that provided access to IE's functionality, not the code that supplied Web browsing functionality itself. *See* J.A. 3012-15. As plaintiffs themselves explained to this Court on the last appeal, "Felten's removal program for Microsoft's browser . . . achieves . . . removal of access . . . without degrading any other part of the OS" because it does not remove "APIs or code." J.A. 5100.

c. The District Court "credit[ed] extensive testimony that recounts the manner in which the forced removal of software code from the Windows operating system will disrupt the industry, harming both ISVs and consumers." 224 F. Supp. 2d at 158. "In this regard," the District Court "credit[ed] the testimony of various ISVs that the quality of their products would decline if Microsoft were required to remove code from Windows." *Id*. As the District Court explained, the Litigating States' proposed remedy would produce more than a thousand variants of Windows, each exposing a different API set. *Id*. at 252 & n.124. According to the District Court, "[t]he weight of the evidence indicates that [this] fragmentation of the Windows platform would be significantly harmful to Microsoft, ISVs, and consumers." *Id*. at 253. "Seeming to fare worst" under the Litigating States' proposed "unbinding" remedy, however, would be the ISVs, who "would not have any assurance that a particular functionality" on which their applications depend would be "present in any given configuration of the new unbound Windows." *Id*.

In so ruling, the District Court found it particularly significant that "Plaintiffs' sole economic expert declined to endorse a remedy requiring the removal of software code." *Id*. at 157. The Litigating States thus "offered no economic analysis of what may occur in the marketplace following a drastic remodeling of a product with over 95 percent . . . market share." *Id*. In contrast, Microsoft offered testimony from two economists that there is no economic rationale for requiring the removal of software code as opposed to removal of end-user access to remedy commingling. *See* J.A. 2736-40; J.A. 2660-61, 2662. The District Court found that the failure of the Litigating States' expert to endorse their proposed "unbinding" remedy "merely emphasizes . . . the grievously inadequate nature of the evidence offered in support of a requirement that Microsoft remove software code from its Windows products." 224 F. Supp. 2d at 157.

Massachusetts contends that the District Court's findings as to the "harmful effects of code removal and its lack of any competitive benefits" are inconsistent with "this Court's liability holding as to commingling." Mass. Br. at 52. Nothing in this Court's liability ruling, however, mandated the imposition of any particular remedy—and certainly not one that the District Court determined, after consideration of the evidence, would be harmful to ISVs and consumers and is unjustified by economic analysis. *See* 224 F. Supp. 2d at 254-55.[15]

Contrary to Massachusetts' assertion, there also are no inconsistencies between the District Court's findings and findings from the liability phase. Mass. Br. at 53. Based on its consideration of the evidence, the District Court expressly found that "there is little similarity" between the type of fragmentation "caused by Microsoft's periodic release of new versions of Windows" and the fragmentation that would result from "the more than 1000 possible versions of Windows that might exist" under the Litigating States' proposed "unbinding" remedy. 224 F.

[15] Microsoft filed a petition for rehearing asking this Court to reconsider its "commingling" ruling, noting that the ruling "might be read to suggest that OEMs should be given the option of removing the software code in Windows 98 (if any) that is specific to Web browsing." J.A. 5417-18. Microsoft pointed out that plaintiffs previously had "argued that removing end-user access to Internet Explorer was tantamount to removing Internet Explorer itself" and that this could "be accomplished by including Internet Explorer in the Add/Remove Programs utility." J.A. 5418. In denying rehearing, this Court stated: "Nothing in the Court's opinion is intended to preclude the District Court's consideration of remedy issues." J.A. 5431.

Supp. 2d at 253. The District Court also concluded, based on testimony from several ISV witnesses, that ISVs could not address the serious problems that would result from the Litigating States' proposed "unbinding" remedy by redistributing additional code with their applications. *Id*. at 254.

Finally, Massachusetts' assertion that there was "substantial evidence" that the Litigating States' proposed "unbinding" remedy would benefit consumers (Mass. Br. at 54) need not detain the Court. The District Court expressly found that "Plaintiffs' proposal of code removal would harm ISVs and consumers." 224 F. Supp. 2d at 158. That finding is supported by substantial evidence. *See* J.A. 3020; J.A. 1325-29; J.A. 2701-02, 2735-38, 2739-40; J.A. 3418-3420; J.A. 4693-95, 4748-50; J.A. 5444-45; J.A. 2536-47; J.A. 2898-2901; J.A. 2665-66; J.A. 5468; *see also* J.A. 2057-64. By contrast, the Litigating States' economist was unable to opine that consumers would be better off under the proposed "unbinding" remedy. J.A. 4491.

B. The District Court Did Not Abuse Its Discretion in Declining To Award Injunctive Relief Directed Specifically at the "Deception of Java Developers" Violation.

In its liability findings, the District Court found that "Microsoft 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." 84 F. Supp. 2d at 106 (FF 394). According to the District Court, "Microsoft encouraged developers to use these extensions by shipping its developer tools with the extensions enabled by default and by failing to warn developers that their use would result in applications that might not run properly with any runtime environment other than Microsoft's . . . ." *Id*. at 106-07 (FF 394). This Court determined that this conduct amounted to intentional deception of Java developers in violation of Section 2. 253 F.3d at 76-77.

1. The Litigating States Failed To Show a Need for Injunctive Relief Directed at This Conduct.

On remand, the District Court found that "Plaintiffs have not shown that there exists a continuing threat of harm from this anticompetitive act." 224 F. Supp. 2d at 265. As the District Court explained, this liability determination "concern[ed] a single, very specific incident of anti-competitive conduct by Microsoft." *Id*. The District Court recognized that "[i]f the deception were ongoing, . . . the obvious remedy would be an order requiring Microsoft to cease that conduct," but stated that "there is no evidence that this deception, or any similar deception, has persisted." *Id*. at 190. To the contrary, the District Court observed, "[t]his action by Microsoft ceased, pursuant to the order of another court, before Judge Jackson entered his factual findings" in 1999. *Id*. at 265 (citing 84 F. Supp. 2d at 107 (FF 390, 394)). In declining to award an injunction directed specifically at this conduct, the District Court stressed that "Plaintiffs have not offered any evidence which indicates that Microsoft has engaged or is likely to engage in deception similar to that involving the Java developer tools, or any developer tools for that matter." *Id*.

Citing *United States* v. *W.T. Grant Co.*, 345 U.S. 629 (1953), Massachusetts challenges the District Court's decision not to award injunctive relief directed at this anticompetitive act. Mass. Br. at 21-23. In that case, however, the Supreme Court recognized that if the illegal conduct has ended, "the moving party must satisfy the court that relief is needed" to obtain injunctive relief. 345 U.S. at 633. In particular, the party seeking injunctive relief must show "that there exists some cognizable danger of recurrent violation." *Id*. If the trial judge determines, "based on all the circumstances," that no such danger exists, his or her "discretion is necessarily broad and a strong showing of abuse must be made to reverse it." *Id*. Massachusetts has made no showing of abuse here.

a. Massachusetts argues that the District Court improperly considered the effect of an injunction entered by another court that ended the deceptive conduct. Mass. Br. at 22. In December 1998, the United States District Court for the Northern District of California issued a preliminary injunction in a private action brought by Sun that required Microsoft to change the default settings in its Java developer tools and to warn developers that using Microsoft's Windows-specific extensions would likely cause incompatibilities with non-Microsoft Java runtime environments. *See* J.A. 2752; J.A. 2609-10; *see also* 84 F. Supp. 2d at 107 (FF 394). In finding that the Litigating States had not established a danger of recurrent violation, the District Court acted within its discretion in considering as part of its analysis that Microsoft had modified its Java developer tools more than four years ago in response to a previous court order.

b. Massachusetts asserts that the District Court clearly erred in finding that there is no continuing deception that requires a remedy, stating—with reference not to Java developer tools, but to an entirely different subject—that "Gates admitted that Microsoft routinely makes knowingly inaccurate claims regarding its compliance with industry standards." Mass. Br. at 22 (citing J.A. 5768-69); *see also id*. at 56. The cited testimony contains no such "admission." J.A. 5768-69; *see also* J.A. 4821-22. Gates instead testified that Microsoft often states that it implements an industry standard that is under consideration by a standard-setting body but not yet final. J.A. 5768-69. Because the proposed standard will continue to change while under consideration, Microsoft may not be fully compliant with the standard on any given day before the standard becomes final. J.A. 5768-69. But, even if such an "admission" had been made with regard to industry standards—a subject not addressed in this Court's liability determinations—it would not establish that the District Court's finding with regard to deception of Java developers is clearly erroneous.

2. The District Court Properly Rejected the Litigating States' Proposed "Truth in Standards" Remedy.

As a remedy for Microsoft's deception of Java developers, the Litigating States proposed what they called a "truth in standards" provision. 224 F. Supp. 2d at 263 (SPR § 16).[16] This provision would require, *inter alia*, that "whenever Microsoft claims to support a particular industry standard, it shall be bound to support the standard until it publicly disclaims such support." *Id*. at 190.

The District Court rejected this proposed remedy for three reasons. First, it concluded that the proposal was not tailored to the relevant liability determination, which "concern[ed] a single, very specific incident." *Id*. at 265. Second, the District Court found that the Litigating States presented no evidence that their proposed "truth in standards" remedy would "enhance competition in the monopolized market," noting that their economist "testified that the provision would be only 'potentially mildly helpful.'" *Id*. at 264 (quoting J.A. 4572). Third, the District Court found that the proposed remedy "suffers from an additional, and potentially more serious, flaw in that it imposes unworkable conditions." *Id*. at 191. The District Court explained:

> The evidence shows that compliance with "industry standards" is difficult to determine and that such a determination is largely a subjective undertaking. Given this fact, a requirement that Microsoft adhere to industry standards will likely prove unenforceable. Such a provision has the potential of subjecting Microsoft to countless claims of non-compliance which may never be resolved with any certainty.

Id. (citations omitted); *see also id*. at 264-65.

[16] Section 16 of the Litigating States' proposed remedy is not merely a "truth in standards" provision. The remedy also would "mandate that Microsoft continue to support an industry standard any time it makes a proprietary alteration to the standard." 224 F. Supp. 2d at 190. The District Court properly rejected this additional requirement as "unrelated to any finding of liability." *Id*.; *see also id*. at 263-64.

Massachusetts challenges as clear error all three reasons offered by the District Court in rejecting the proposed "truth in standards" remedy. Mass. Br. at 56. These challenges fall well short of the mark. First, the District Court correctly found that the finding of liability—which related to certain keywords and compiler directives included in the version of Microsoft's Java developer tools released in 1998—is "far more narrowly circumscribed than the terms of Plaintiffs' remedy." 224 F. Supp. 2d at 265. That finding is supported by testimony from Microsoft's economists. *See* J.A. 2697-98, 2748; J.A. 2679. Second, although the Litigating States' economist may have "endorsed" their "truth in standards" provision, Mass. Br. at 56, that endorsement was lukewarm at best, J.A. 4572, a fact that the District Court properly considered. Third, there is substantial support in the record for the District Court's finding that the proposed remedy would be unworkable. *See* J.A. 4823; J.A. 2904-06; J.A. 5767-70. That finding is not clearly erroneous.

III.

The District Court Entered Forward-Looking Relief That Goes Beyond the Specific Acts Found To Be Anticompetitive and Did Not Abuse Its Discretion in Rejecting the Additional Relief Proposed by the Litigating States.

The District Court's decree not only remedies the acts found to be anticompetitive by this Court, but also extends significantly beyond those acts to promote competition and "'ensur[e] that there remain no practices likely to result in monopolization in the future.'" 224 F. Supp. 2d at 171 (quoting *United Shoe*, 391 U.S. at 250). While the decree is appropriately forward-looking, the District Court correctly rejected efforts by the Litigating States to broaden the remedy to address products and conduct that are unconnected to the liability determinations affirmed on appeal.

A. The District Court Did Not Abuse Its Discretion in Rejecting the Litigating States' Expansive Definition of "Middleware."

Massachusetts contends that the District Court abused its discretion in defining "middleware" too narrowly. Mass. Br. at 24-26. That contention is baseless.

The District Court gave careful consideration to the definition of "middleware" used in the decree. *See* 224 F. Supp. 2d at 112-38. The definition adopted by the District Court is quite broad, encompassing not only the two technologies at issue in the case, *i.e.*, Web browsing software and JVMs, but also e-mail client software, networked audio/video client software and instant messaging software. *Id*. at 115. The "middleware" definition also covers future technologies with characteristics similar to those of IE—in other words, components of Windows that are distributed separately from the operating system and trademarked by Microsoft and that compete with third-party "middleware" products. *Id*. at 115-16. Thus, if Microsoft treats a future component of Windows the same way it treated IE, that component will automatically become subject to the decree.

The District Court carefully examined (*id*. at 121-28) the various technologies that the Litigating States sought to classify as "middleware" to see whether they had the "'key' attributes" that endowed Navigator and Sun's Java "with the 'potential to diminish the applications barrier to entry.'" *Id*. at 112 (quoting 84 F. Supp. 2d at 28 (FF 69)). The District Court concluded that the "middleware" definition proposed by the Litigating States was massively overbroad, encompassing "virtually any block of software code which exposes even a single API." *Id*. at 118. As the District Court noted, the Litigating States made no showing that all software exposing any APIs has the potential to evolve into a platform threat to Windows and "thereby promote competition in the monopolized market." *Id*. at 119. That finding is supported by substantial evidence. *See* J.A. 2987, 2991; J.A. 2862-63; J.A. 2648; J.A. 2482-83; J.A. 3914.

The fact that Microsoft's experts viewed the "middleware" definition proposed by Microsoft as broad enough to encompass some software that poses no obvious platform threat to Windows is not a basis for faulting the definition. *See* Mass. Br. at 24. Instead, the breadth of the "middleware" definition adopted by the District Court reflects its determination that the remedy should "extend beyond the specific middleware threats addressed during the liability phase." 224 F. Supp. 2d at 135. As a result, the decree's "middleware" definition applies not only to Web browsing software and JVMs, but also "to other existing and similar categories of middleware functionality and even to categories of middleware functionality which have not yet been conceived." *Id*. In rejecting the Litigating States' request "to treat as 'middleware' a wide variety of technologies to which the relationship of liability in this case is either remote or non-existent," *id*., the District Court heeded this Court's instruction to tailor the remedy to the liability upheld on appeal.

Massachusetts makes much of the fact that the Common Language Runtime or "CLR," a component of Microsoft's new .NET Framework, is not included by name in the "middleware" definition in the District Court's decree. Mass. Br. at 25-26. That criticism is misplaced. If Microsoft decides to incorporate the CLR into Windows while also distributing the component separately as trademarked software, then the CLR will become "Microsoft Middleware" under the decree. Unless and until the CLR is incorporated into Windows, however, it should not be treated as "Microsoft Middleware." As the District Court observed, "[i]nclusion of a particular functionality in Windows is integral to the theory of liability, because it was this inclusion of middleware functionality in its Windows products in a manner that worked to the absolute exclusion of competing non-Microsoft middleware that gave rise to significant portions of liability in this case." 224 F. Supp. 2d at 136.

In sum, the District Court properly exercised its discretion in rejecting the Litigating States' effort to "expand[] the parameters of the defining characteristics of the middleware threat [to Windows] to include virtually any piece of software." *Id*. at 137. As the District Court found, extending the remedy so far beyond the liability determinations affirmed on appeal "impermissibly threatens to interfere with ordinary and legitimate commercial practices inherent in Microsoft's participation in the software industry." *Id*.

B. The District Court Did Not Abuse Its Discretion in Rejecting the Litigating States' Proposed "API Disclosure" Remedy.

This Court did not find that Microsoft violated the antitrust laws by failing to disclose information about Windows APIs to third-party developers of middleware. 224 F. Supp. 2d at 174; *see also id*. at 226 ("Neither side maintains that the interoperability disclosures . . . are directly related to the imposition of liability."). The District Court's decree nevertheless requires Microsoft to disclose all of the APIs on which "Microsoft Middleware" relies to obtain services from other parts of the operating system, a provision that goes beyond the liability determinations affirmed on appeal and thus is an example of forward-looking relief designed to "further the remedial goal of restoring competition to the market." *Id*. at 172.

Massachusetts argues that this provision will not result in "meaningful disclosure." Mass. Br. at 27. Although Massachusetts complains that many of the APIs on which "Microsoft Middleware" relies are already disclosed, the focus should not be on the sheer number of additional APIs to be disclosed under the decree. What matters, as the District Court observed, is whether third-party "middleware" developers are disadvantaged relative to Microsoft's own "middleware" developers "in their ability to create products that interoperate with the Windows operating system." 224 F. Supp. 2d at 172. If the APIs on which "Microsoft Middleware" relies to obtain services from other parts of the operating system are disclosed, which is what the District Court's decree mandates, then no such disadvantage will exist.[17] Massachusetts thus has not shown that the District Court abused its discretion in concluding that its decree "fosters the ability of rival middleware platforms to work well with the ubiquitous Windows." *Id*.[18]

The Litigating States sought to broaden the definition of "API" to include thousands of internal interfaces in Windows (*i.e*., interfaces that connect modules of software code within the operating system) not designed for external use. *See* Mass. Br. at 27-28. The District Court properly rejected that attempt to increase the "depth" of disclosure required of Microsoft, finding that the disclosure of internal interfaces in Windows would have serious negative effects, both economically and technologically. *See* 224 F. Supp. 2d at 177.

As to adverse economic effects, the District Court found that mandating the disclosure of internal interfaces in Windows would enable competitors to clone Microsoft's operating system, thereby reducing Microsoft's incentives to invest in creating improved versions of Windows. *Id*. at 228-30. That finding is supported by substantial evidence. *See* J.A. 3028, 3032-

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[17] In their *amicus* brief, CCIA, ProComp and SIIA contend that the obligation to disclose Windows APIs relied on by "Microsoft Middleware" applies only to user interface elements. CCIA/ProComp/SIIA Br. at 25. That contention is baseless. Any Windows API on which the block of software that comprises "Microsoft Middleware" relies—which must be large enough to include "at least the software code that controls most or all of the user interface elements of the Microsoft Middleware"—must be disclosed under Section III.D of the decree. 224 F. Supp. 2d at 275 (§ VI.J); *see also* Cole ¶ 11.

[18] The trade associations also complain that Section III.D of the decree is limited to disclosure of Windows APIs called by "Microsoft Middleware." CCIA/ProComp/SIIA Br. at 26. This complaint ignores the thousands of Windows APIs that Microsoft publicly discloses in the ordinary course of business. *See* J.A. 1318-20; J.A. 5503; J.A. 3413-14; J.A. 4705-06; J.A. 5453-54; J.A. 5510; J.A. 3531-32; J.A. 3430-31. In fact, the tens of thousands of Windows applications that form the "applications barrier to entry" would not exist if Microsoft did not tell ISVs how to call upon a wide range of operating system functionality through thousands of documented Windows APIs. *See* J.A. 3035; J.A. 2547-48; J.A. 2810-11, 2813, 2873-75; J.A. 5510; *see also* 231 F. Supp. 2d at 189.

34; J.A. 2732-33; J.A. 4769-71; J.A. 2873-75, 2876-80; J.A. 826; J.A. 3526; J.A. 593-94; J.A. 4630, 4633; J.A. 3596.

As to adverse technological effects, the District Court found that disclosure of internal interfaces in Windows (i) could destabilize applications running on Windows, (ii) would impede Microsoft's ability to create new versions of Windows, and (iii) "could pose a substantial threat to the security and stability" of the operating system. 224 F. Supp. 2d at 230-31. Those findings are also supported by substantial evidence. *See* J.A. 1216; J.A. 3024-25, 3027, 3043-44; J.A. 3416; J.A. 4781-83; J.A. 2552; J.A. 2873-75.

Massachusetts faults the District Court for failing to require Microsoft to disclose new APIs earlier in the development process for a new version of Windows. Mass. Br. at 29. The District Court keyed disclosure of new APIs under the decree to the first beta release of a new version of Windows provided to more than 150,000 beta testers. 224 F. Supp. 2d at 268-69, 276. There is no evidence to support Massachusetts' suggestion that Microsoft would—or could—release a new version of Windows without providing it to more than 150,000 beta testers significantly in advance of its commercial release. *See* J.A. 2994-95; J.A. 5538-39. As a result, the assertion that the decree gives Microsoft unbridled discretion to decide whether, and when, to disclose new Windows APIs is unsupported. Moreover, there is ample evidence in the record that requiring Microsoft to disclose new Windows APIs before the software code underlying those APIs has been fully developed and tested, as the Litigating States requested, would create serious logistical problems for both Microsoft and third-party software developers. *See* J.A. 3261, 3263-64; J.A. 2979-82, 3030-31; J.A. 4779-81.

C. The District Court Did Not Abuse Its Discretion in Rejecting the Litigating States' Proposed "Protocol Disclosure" Remedy.

This Court did not find that Microsoft violated the antitrust laws by failing to license the proprietary protocols that Windows desktop operating systems use to communicate with Windows server operating systems. Indeed, such a claim was never raised at trial. Server operating systems also are not "middleware" as that term was used during the liability phase because they are not a layer of software that sits on top of a desktop operating system and provides a platform for locally-running PC applications that can simplify the porting of those applications to other operating systems. 224 F. Supp. 2d at 129.

The District Court nevertheless included a provision in the decree relating to "server-network computing." *Id*. at 172-73, 269. Section III.E of the decree requires Microsoft to license all of the protocols that Windows desktop operating systems use to communicate natively with Windows server operating systems. The District Court made the remedy forward-looking in this respect on the theory that because applications running on servers are accessible from Windows PCs, the server operating systems on which such server-based applications run could perform a function roughly analogous to that potentially performed by Netscape Navigator and Sun's Java technologies on Windows PCs. *Id*. at 129. There is no doubt that this provision of the decree extends beyond the liability determinations affirmed on appeal. *Id*. at 173.

Because a substantial degree of interoperability already exists between Windows desktop operating systems and non-Microsoft server operating systems, *id*. at 121-24, Massachusetts contends that "the court did not and could not make findings that III.E would meaningfully alter the current state of affairs with respect to this interoperability." Mass. Br. at 30. There is no basis for that contention. As the District Court found, interoperability between desktop and server operating systems exists on a continuum. 224 F. Supp. 2d at 122, 172 n.75. The fact that substantial interoperability can be achieved without using Microsoft's proprietary protocols does not mean that the ability to license those protocols will not improve interoperability or make such interoperability easier to achieve. As a result, the District Court did not abuse its discretion in concluding that disclosure of Microsoft's proprietary protocols under Section III.E "will advance the ability of non-Microsoft server operating systems to interoperate, or communicate, with the ubiquitous Windows PC client." *Id*. at 172-73.

The District Court properly rejected the Litigating States' attempt to expand dramatically the interoperability disclosures required of Microsoft by forcing Microsoft to supply enough information to enable competitors to create "plug-in" replacements for Windows server operating systems. *Id*. at 227. The District Court found that the sort of "perfect interchangeability" sought by the Litigating States "exceeds the normal industry usage of the term 'interoperate.'" *Id*. at 176, 228. The District Court further found that differentiation among server operating systems is a beneficial aspect of competition that would be reduced or eliminated if competitors were given all of the information they need to clone Windows server operating systems. *Id*. at 228. Those findings are supported by substantial evidence. *See* J.A. 4776; J.A. 2838-41; *see also* J.A. 5551; J.A. 4043.

Massachusetts disagrees with the District Court that the meaning of the word "interoperate" is clear from the text of Section III.E. Mass. Br. at 31-32. But that disagreement does not make the District Court's contrary conclusion clearly erroneous. Section III.E requires Microsoft to license all of the protocols that a Windows desktop operating system uses to communicate natively with a Windows server operating system. As the District Court found, there is nothing ambiguous about that obligation. 224 F. Supp. 2d at 235. In fact, as Massachusetts concedes, there is substantial evidence in the record that Microsoft understands what is required by Section III.E and is complying with the provision. Mass. Br. at 30 n.22 (citing J.A. 3544-46, 3555, 3559-63).

Massachusetts also complains that Section III.E is limited to protocols that a Windows desktop operating system uses to communicate "natively" with a Windows server operating system, that is to say, without the addition of separately distributed software code to the desktop operating system. *Id*. at 32-33. As the District Court explained, that limitation makes good sense:

> [W]here software code is added to Windows to achieve interoperation with Windows servers, the means of interoperation no longer involves the capabilities of the monopoly product—the PC operating system, but instead involves some other software product which runs on Windows, but is not part of Windows itself. In this light, the limitation to "native" interoperation in § III.E appears to flow directly from a recognition of the fact that Microsoft's anticompetitive behavior in this case is tied to its monopoly in a carefully defined market, rather than to some more general dominance in the broader software industry.

224 F. Supp. 2d at 235. The fact that Massachusetts would like Section III.E to encompass the interaction of client and server applications like Microsoft Outlook and Microsoft Exchange (*see id*. at 173, 234-35) does not mean that the District Court abused its discretion in refusing to extend the remedy so far beyond the liability determinations affirmed on appeal. As the District Court held, interoperability between applications "bears an insufficient nexus to the market in which liability was imposed." *Id*. at 173.

More generally, the notion that Microsoft should be compelled to license all of its proprietary protocols, even those unrelated to Windows desktop operating systems, is premised on the apparent belief that there is something inherently improper about Microsoft's development of innovative technology that it chooses not to share with competitors. *See* Mass. Br. at 30 n.21. But, as the District Court noted, this Court did not impose liability for Microsoft's use of proprietary protocols, even when that use could be said to hinder interoperability. 224 F. Supp. 2d at 175. The District Court thus correctly rejected as "without basis" the Litigating States' plea for "a remedy broadly facilitating interoperation in markets unrelated to the monopoly market." *Id*.

D. The District Court Did Not Abuse Its Discretion in Excluding "Server-to-Server and Multi-Device Interoperability" from the Remedy.

Massachusetts criticizes the District Court for failing to include provisions in the decree that address "interoperation among all nodes of the network," including "server-to-server and multi-device interoperability." Mass. Br. at 57-59. The stated basis for this criticism is that interoperability among devices other than Windows PCs is increasingly important given the recent emergence of Web services, *i.e.*, the ability of one computing device to call upon functionality provided by another computing device across a network using industry standards. 224 F. Supp. 2d at 126-28.

Web services, however, "are largely unrelated to the findings of liability in this case." *Id*. at 134. As the District Court explained, "the mere importance of Web services to Microsoft and the industry as a whole is not sufficient to justify extending the remedy in this case to regulate Microsoft's conduct in relation to Web services." *Id*. at 133. During the liability phase, there was no mention of Web services, and there is no finding that Microsoft possesses monopoly power in that supposed "market" (if such a thing exists) or that Microsoft engaged in any anticompetitive conduct connected with Web services. The District Court correctly rejected predictions by the Litigating States' witnesses that Microsoft will attempt to monopolize Web services as "largely unconnected to the specific facts for which Microsoft has been found liable." *Id*. at 134. As the District Court stated, such predictions "are more appropriately addressed as separate claims, in a separate suit, should Microsoft engage in such conduct." *Id*.

The ability of the Litigating States to hypothesize anticompetitive conduct in which Microsoft might engage in the future with regard to Web services does not mean that the remedy in this case should be "used as a vehicle by which to fight every potential future violation of the antitrust laws by Microsoft envisioned by Microsoft's competitors." *Id*. at 133. The District Court did not abuse its discretion in holding that the antitrust laws do not authorize the regulation of Microsoft's "conduct . . . in areas bearing little relation to the violation." *Id*. at 134.

E. The District Court Did Not Abuse Its Discretion in Rejecting the Litigating States' Proposed "Open-Source IE" Remedy.

Massachusetts contends that the District Court abused its discretion in rejecting "the requirement that Microsoft provide 'open source' licenses" to IE. Mass. Br. at 36. Under this proposed remedy, Microsoft would be obligated to give away "all" source code for "all" of its "Browser" software to its competitors, with full rights to modify and use that technology however those competitors liked on a royalty-free basis. SPR § 12. As Gates explained, the so-called "open-source IE" remedy "would effect a transfer of some of Microsoft's most innovative work, in which we have invested more than $750 million, to the industry at large." J.A. 4802. The proposed remedy also would eliminate Microsoft's incentive to continue investing in Web browsing technology because Microsoft would be required to disclose any new innovations to its competitors before releasing them to consumers. *See* J.A. 2741-43; J.A. 4804-06; J.A. 2667, 2669. The District Court found that the Litigating States "fail[ed] entirely to justify the inclusion of" this extreme provision in the decree for multiple reasons. 224 F. Supp. 2d at 185.

The Litigating States argued that the divestiture of IE would "benefit non-Microsoft operating systems, in particular Linux and Apple." *Id*. The District Court found, however, that efforts to improve the fortunes of competing operating systems are inconsistent with the theory of the case, which focused on the platform threat to Windows posed by "middleware" such as Netscape Navigator and Sun's Java technologies. *Id*. at 185, 242. As the District Court stated, "it is difficult to understand what role the bolstering of particular operating systems will play in redressing anticompetitive conduct directed at middleware." *Id*. at 185.

Massachusetts argues that IE could serve as a cross-platform alternative to Navigator and Sun's Java. Mass. Br. at 37. It fails to explain, however, why such a new alternative is necessary once the anticompetitive acts that were found to have limited the adoption of "middleware" threats to Windows have been proscribed by other provisions of the decree. If Web browsing software can still serve as "cross-platform middleware" with the potential to "lower the applications barrier to entry," as Massachusetts contends, then there is no reason why that Web browsing software has to be expropriated from Microsoft. *See* J.A. 5592 (Red Hat ships its version of Linux with the Netscape Navigator, Mozilla, Conqueror, Lynx and Galleon Web browsers all preinstalled). This is particularly true because the record in this case "belies any attempt to attribute IE's success *entirely* or predominantly to Microsoft's illegal conduct." 224 F. Supp. 2d at 242 n.119 (emphasis in original).

The District Court was further justified in rejecting the proposed "open-source IE" remedy on the ground that it would benefit Microsoft's competitors, not competition. *Id*. at 185. The District Court found that the forced divestiture of IE would not "rectify injury to consumers caused by diminished competition," but rather would "merely serve to shield Microsoft's competitors from the rigors of the marketplace." *Id*. The District Court's finding that the proposed "open-source IE" remedy would constitute a transparent "IP grab" by Microsoft competitors (*id*. at 244) is supported by substantial evidence. *See* J.A. 2732; J.A. 4802; J.A. 2669-70; *see also* J.A. 4502-04.

The District Court also noted the lack of evidence that the proposed "open-source IE" remedy "would accrue to the benefit of competition" by lowering the applications barrier to entry. 224 F. Supp. 2d at 245. IE exposes only a subset of the APIs that ISVs need to develop full-featured Windows applications. As the District Court noted, none of the Litigating States' witnesses could "articulate[] coherently the manner in which the forced divestiture of Microsoft-created technology will foster the development [by third parties] of cross-platform middleware." *Id*. With no explanation of how the presence of a version of IE on Linux would promote wide-spread porting of Windows applications to Linux, the proposed "open-source IE" remedy remains "wholly unrelated to the middleware theory of liability in this case." *Id*.[19]

Because it viewed this proposed remedy as structural relief, the District Court also considered "the causal connection between the conduct found to be anticompetitive and the company's position in the relevant market." *Id*. at 186. As the District Court correctly found, the Litigating States did "not offer testimony which establishes a clear link between the liability in this case and the open sourc[ing] of IE." *Id*. at 241. On appeal, Massachusetts concedes that this proposed remedy "is predicated not upon the causal connection between Microsoft's illegal acts and its position in the PC operating system market, but rather the connection between its illegal acts and the harm visited upon Navigator (and concomitant benefit to IE)." Mass. Br. at 38. The claim alleging attempted monopolization of Web browsers, however, was dismissed on appeal for failure to prove a relevant market. 253 F.3d at 84. As a result, the causal connection relevant to the monopoly maintenance violation—the only one for which remedy is appropriate—is precisely the causal connection on which Massachusetts now disclaims any reliance in seeking to justify the proposed "open-source IE" remedy.

[19] Insofar as Massachusetts contends that IE is a crucial "gateway" to Web services, the record establishes otherwise: Web browsers are not necessary to access Web services, and Web browsers other than IE can support Web services standards. *See* J.A. 1219.

Finally, the District Court properly rejected the Litigating States' claim that the proposed "open-source IE" remedy could be justified on the theory that IE's current success is a "fruit" of Microsoft's anticompetitive acts. 224 F. Supp. 2d at 243-44 & n.121. Massachusetts did not identify any evidence in the record establishing that IE's current popularity is attributable to something other than "Microsoft's qualitative improvements to IE" and Microsoft's vigorous promotion of IE using methods this Court found to be permissible under the antitrust laws. *Id*. at 244 (citing 253 F.3d at 34). In the absence of such evidence, the District Court did not abuse its discretion in declining to award the radical and confiscatory relief requested by the Litigating States.

F. The District Court Did Not Abuse Its Discretion in Rejecting the Litigating States' Proposed "Java Must-Carry" Remedy.

Under the rubric of denying Microsoft the supposed "fruits" of its anticompetitive acts, Massachusetts challenges the District Court's rejection of a "Java must-carry" remedy that would require Microsoft to provide free distribution of a Sun-compliant JVM in every copy of Windows. Mass. Br. at 38-41. The District Court did not abuse its discretion in rejecting the Litigating States' invitation to engage in such unprecedented "market engineering," which would have given Sun's Java technology a free-ride on Microsoft's OEM distribution channel. 224 F. Supp. 2d at 261; *see also id*. at 189.

Although Massachusetts chooses to ignore it, the principal reason why the District Court refused to order Microsoft to distribute Sun's Java technology in Windows was the outright rejection of the Litigating States' assertion that "there is no other means by which Java can achieve sufficient distribution to provide a viable platform." *Id*. at 189. The District Court found that there are effective ways for Sun to distribute Java other than by forcing Microsoft to include Java in Windows. *Id*. at 260 n.130. That finding is supported by substantial evidence. *See*

J.A. 1231-33; J.A. 2747-48; J.A. 3657, 5622-24; *see also* J.A. 2226-29. The District Court concluded that Sun had chosen not to take advantage of available distribution channels and that Sun "would prefer, instead, to use this litigation as a means by which to obtain ubiquity" for its Java technology. 224 F. Supp. 2d at 260 n.130. If Sun's Java technology can obtain widespread distribution without the "Java must-carry" remedy, then Microsoft should not be required to include a rival's product in its flagship operating system, with all of the problems attendant upon such mandatory distribution. *See* J.A. 3039-40; J.A. 4807-09.

The District Court also rejected the "Java must-carry" remedy because it was predicated on the idea that Sun's Java technology is entitled to receive from Microsoft "'the same level of distribution that Microsoft can provide to the CLR.'" 224 F. Supp. 2d at 261 (quoting J.A. 973). As the District Court stated, providing "instantaneous ubiquitous distribution" for Sun's Java technology now is not an appropriate remedy for Microsoft acts directed at Java that occurred six years ago. *Id*. at 262 (citing J.A. 807-08). That is especially true because "[t]here is no evidence that Java would today possess 'equal footing,' in terms of distribution, with Microsoft, but for Microsoft's anticompetitive conduct." *Id*. While Sun undoubtedly would like Microsoft to bear the cost of distributing Sun's Java technology, the District Court did not abuse its discretion in concluding that ordering such "parity" of distribution would provide Java with "an artificial advantage over other non-Microsoft technologies which may now or in the future compete with Java." *Id*.

Massachusetts suggests that the District Court placed undue weight on the fact that the "Java must-carry" remedy was designed to benefit a particular competitor. Mass. Br. at 39-40. That is incorrect. In addition to the grounds noted above, the District Court also rejected this proposed remedy because it was based on complaints either unrelated to or inconsistent with this Court's liability determinations. 224 F. Supp. 2d at 260-61. Having said that, the District Court was entitled to rely on the opinion of the Litigating States' own economist that the remedy in this case "should be 'technology neutral,' leaving it to *market forces* to identify the most promising future threats to Microsoft's monopoly." *Id*. at 262 (quoting J.A. 808 (emphasis in original)). As the District Court noted, it is difficult to conceive of a provision less "technology neutral" than the proposed "Java must-carry" remedy, which was plainly designed to benefit Sun. *Id*.; *see also* J.A. 3644, 3652, 5624; J.A. 5554; J.A. 5661-62; J.A. 5708-11. The District Court's finding (224 F. Supp. 2d at 262 n.133) that the proposed "Java must-carry" remedy is an example of improper rent-seeking by a Microsoft competitor is supported by substantial evidence. *See* J.A. 2714-16; J.A. 5705-06.

G. The District Court Did Not Abuse Its Discretion in Rejecting the Litigating States' Proposed Ban on Market Development Programs.

Massachusetts argues that the decree must be modified to prohibit Microsoft's use of Market Development Programs or "MDPs." Mass. Br. at 60-61. Pursuant to MDPs, Microsoft offers OEMs discounts on their Windows royalties to encourage them to promote and improve Windows-based PCs. J.A. 4757-58; J.A. 2645. According to Massachusetts, the decree, as currently written, enables Microsoft to use MDPs to prevent OEMs from taking advantage of their newfound flexibility to distribute and promote non-Microsoft middleware. Mass. Br. at 60. The District Court considered this attack on MDPs, 224 F. Supp. 2d at 165-66, 210-12, and rejected it, noting that this Court "did not ascribe liability for Microsoft's use of MDPs," *id*. at 210.

As the District Court stated, the remedy permits Microsoft to use MDPs only if the benefits conferred on OEMs are "based upon reasonable, objective criteria, which are enforced uniformly and without discrimination." *Id*. at 166. Massachusetts does not explain how Microsoft could use MDP discounts that meet the criteria specified in the decree to influence improperly choices made by OEMs—an assertion the District Court dismissed as unsustainable. *Id*. at 211-12. As the District Court observed, the Litigating States' own witnesses had difficulty identifying anything objectionable about Microsoft's use of MDPs absent the sort of discrimination or retaliation against OEMs that is prohibited by other provisions of the decree. *Id*. at 166.

Massachusetts points to nothing in the record that renders clearly erroneous the District Court's determination that there is "insufficient evidence to support a finding that MDPs themselves, when applied in the absence of coercion, retaliation, or non-uniform enforcement, have any anticompetitive effect." *Id*. at 212. Given the limitations on the use of MDPs contained in the decree, the assertion that Microsoft can use MDPs "as a means of ensuring that OEMs do not remove end-user access to Microsoft's middleware" (Mass. Br. at 60-61) is unsupported.

Similarly, Massachusetts points to nothing in the record that renders clearly erroneous the District Court's conclusion that "MDPs, when applied uniformly and in the absence of coercion, retaliation, and the like, can benefit consumer welfare." 224 F. Supp. 2d at 212. To the contrary, the District Court's finding (*id*. at 166) that "MDPs are procompetitive in many instances" is supported by substantial evidence. *See* J.A. 4757-58; J.A. 2645, 2647-48; *see also* J.A. 3806-07.

CONCLUSION

The District Court's judgment should be affirmed in all respects.

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CERTIFICATE OF COMPLIANCE

I hereby certify that the foregoing brief complies with the limit of 18,750 words established in this Court's March 13, 2003 Order because it contains 18,433 words, excluding the parts of the brief exempted by Rule 32(a)(7)(B)(iii) of the Federal Rules of Appellate Procedure and Circuit Rule 32(a)(2).

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